NORTH CAROLINA

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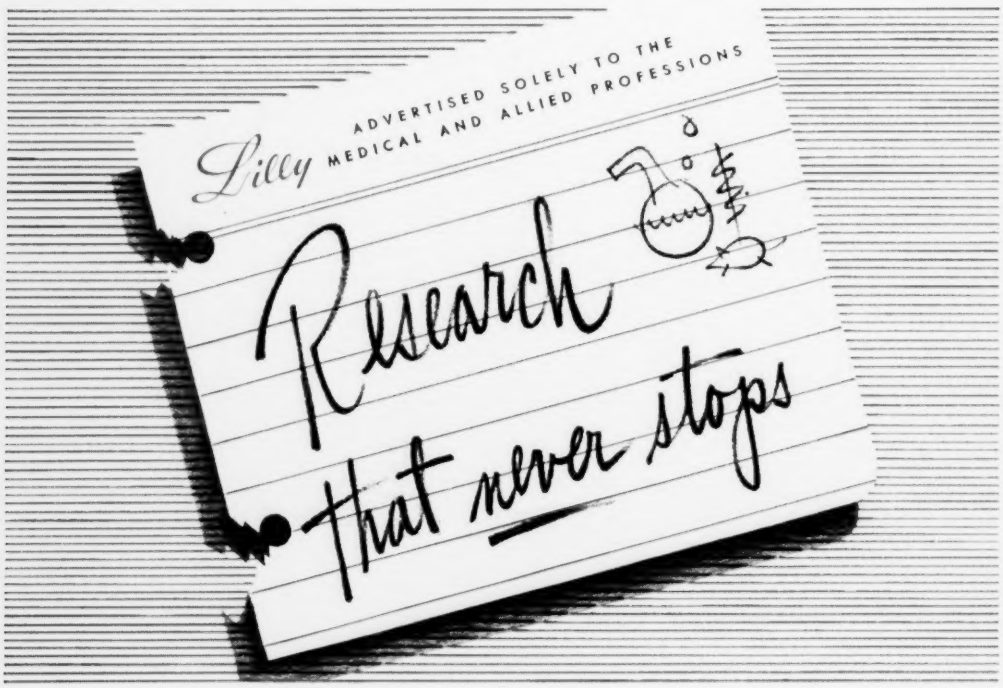

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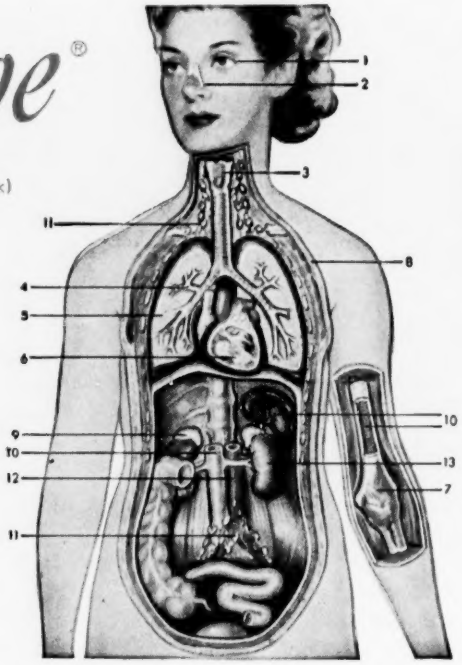

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1. EYE—Inflammatory eye disease. **2. NOSE**—Intractable hay fever. **3. LARYNX**—Laryngeal edema (allergic). **4. BRONCHI**—Intractable bronchial asthma. **5. LUNG**—Sarcoidosis. **6. HEART**—Acute rheumatic fever with carditis. **7. BONES AND JOINTS**—Rheumatoid arthritis; Rheumatoid spondylitis; Acute gouty arthritis; Still's Disease; Psoriatic arthritis. **8. SKIN AND CONNECTIVE TISSUE**—Pemphigus; Exfoliative dermatitis; Atopic dermatitis; Disseminated lupus erythematosus; Scleroderma (early); Dermatomyositis; Poison Ivy. **9. ADRENAL GLAND**—Congenital adrenal hyperplasia; Addison's Disease; Adrenalectomy for hypertension, Cushing's Syndrome, and neoplastic diseases. **10. BLOOD, BONE MARROW, AND SPLEEN**—Allergic purpura; Acute leukemia† (lymphocytic or granulocytic); Chronic lymphatic leukemia.† **11. LYMPH NODES**—Lymphosarcoma†; Hodgkin's Disease†. **12. ARTERIES AND CONNECTIVE TISSUE**—Periarteritis nodosa (early). **13. KIDNEY**—Nephrotic Syndrome, without uremia (to induce withdrawal diuresis). **14. VARIOUS TISSUES**—Sarcoidosis; Angioneurotic edema; Drug sensitization; Serum sickness; Waterhouse-Friderichsen Syndrome.

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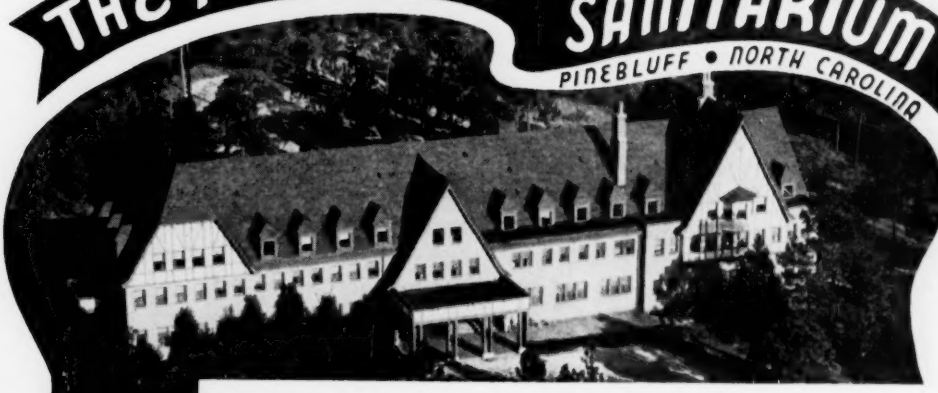

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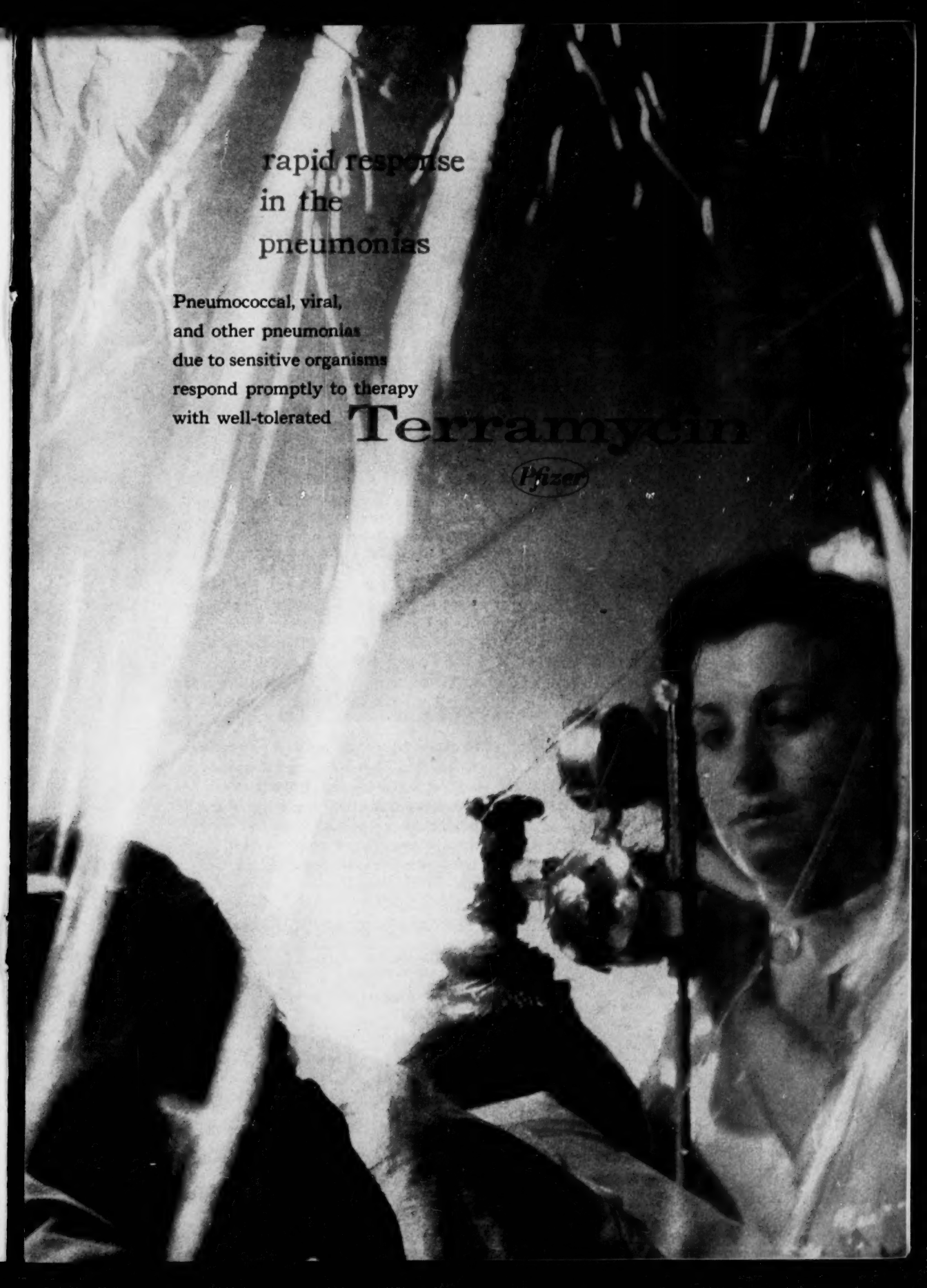
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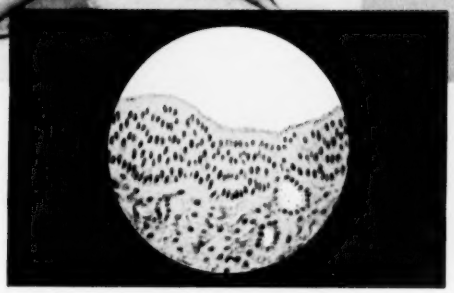

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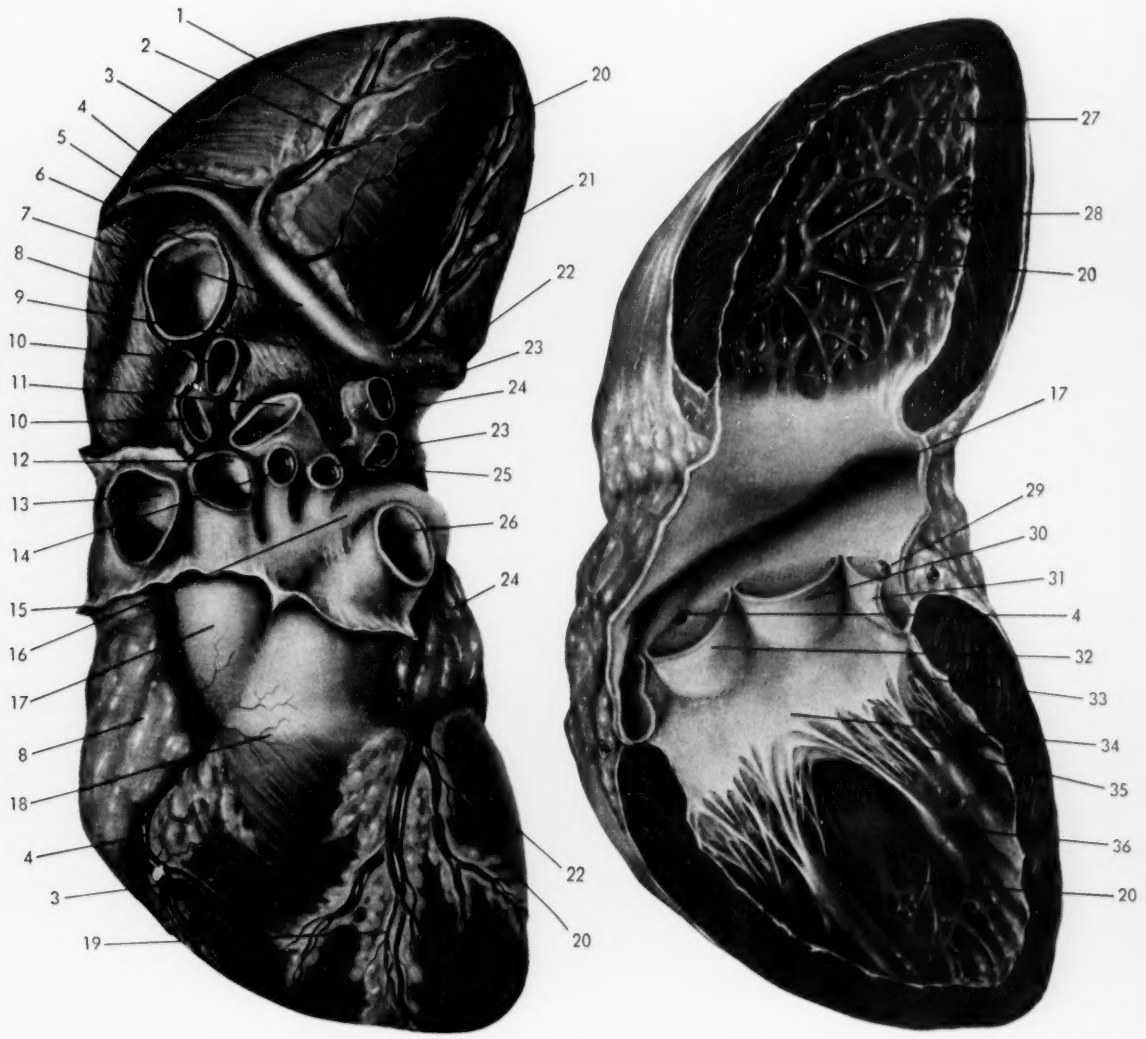

1 Middle cardiac vein
2 Posterior descending branch of right coronary artery
3 Right ventricle
4 Right coronary artery
5 Small cardiac vein
6 Inferior vena cava
7 Coronary sinus
8 Right auricle
9 Left atrium
10 Right pulmonary vein
11 Right branch of pulmonary artery
12 Innominate artery
13 Superior vena cava
14 Left common carotid artery
15 Pericardium
16 Aortic arch
17 Ascending aorta
18 Conus arteriosus
19 Anterior descending branch of left coronary artery
20 Left ventricle
21 Posterior vein of left ventricle
22 Great cardiac vein
23 Left pulmonary vein
24 Left auricle
25 Left subclavian artery
26 Left branch of pulmonary artery
27 Trabeculae carneae
28 Trabecula tendinea
29 Left coronary artery
30 Posterior semilunar valve
31 Left semilunar valve
32 Right semilunar valve
33 Posterior cusp of mitral (bicuspid) valve
34 Anterior cusp of mitral (bicuspid) valve
35 Chordae tendineae
36 Papillary muscle

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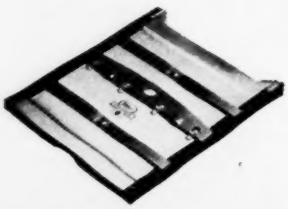

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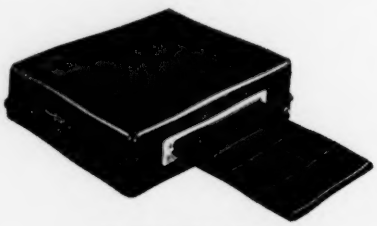

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1. Perloff, W. M.: Am. J. Obst. & Gynec. *58*:684, 1949.

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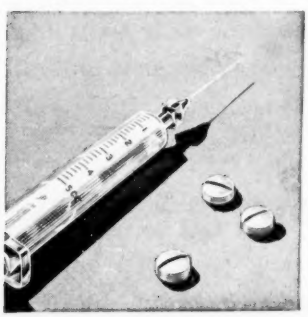

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4. Corynebacterium diphtheriae	Diphtheria carriers
5. Nonhemolytic streptococci	Some cases of endocarditis, genito-urinary tract infections

***References**

1. Heilman, F. R., Herrell, W. E., Wellman, W. E., and Geraci, J. E.: Some Laboratory and Clinical Observations on a New Antibiotic, Erythromycin ('Ilotycin'), Proc. Staff Meet., Mayo Clin., 27:285 (July 16), 1952. 2. Haight, T. H., and Finland, M.: Laboratory and Clinical Studies on Erythromycin, New England J. Med., 247:227 (August 14), 1952. 3. Smith, J. W., Dyke, R. W., and Griffith, R. S.: Erythromycin: Studies on Absorption Following Oral Administration and on Treatment of 33 Patients, to be published. 4. Spink, W. W.: Personal communications. 5. Romansky, M. J.: Personal communications.

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INDICATIONS FOR THE STERILIZATION OF WOMEN

JAMES F. DONNELLY, M. D.*

and

FRANK R. LOCK, M.D.; F.A.C.S.**

WINSTON-SALEM

The Committee on Maternal Welfare has received inquiries from many different sources throughout the state and elsewhere concerning the indications for tubal ligation. After considerable investigation from the medical, legal, and sociologic standpoints, the Committee has found that, primarily because of the legal difficulties involved, it is impossible to publish an exact list of indications. Anyone interested in a legal discussion of the problem can consult the article previously published in the *North Carolina Medical Journal* by Mr. John S. Bradway of Duke University[1].

A recent survey by the American College of Surgeons indicates that many tubal ligations have been performed in this state without proper indications. On the other hand, the survey of maternal deaths made by the Committee on Maternal Welfare indicates that many patients who should have been sterilized did not have this operation done. Apparently the procedure of sterilization has been abused in both directions.

Types of Sterilization

Legally speaking, there are two major types of sterilization—involuntary and voluntary.

Involuntary sterilization

The current state law regarding involuntary sterilization or asexualization dates back to 1933, although several minor amendments have been made since then. These sterilizations are carried out on the authorization of the Eugenics Board, which is composed of the State Commissioner of Public Welfare, the secretary of the State Board of Health, the chief medical officer of the State Mental Hospital at Raleigh, the Attorney General, and the chief medical officers of an institution for the feebleminded or the insane, outside of Raleigh.

The law states that sterilization of mentally diseased, feebleminded, or epileptic persons may be carried out if it is "for the best interest of the mental, moral, or physical improvement of the patient," or "for the public good," or is needed to prevent the procreation "of a child or children who would have a tendency to serious physical, mental, or nervous disease or deficiency." A petition for involuntary sterilization may be sent to the Eugenics Board by:

1. The head of any state penal or charitable institution.

2. The county superintendent of public welfare.

3. The next of kin or legal guardian.

The following information should be included in the petition:

1. A statement concerning the mental and physical condition of the individual for whom the tubal ligation is desired.

2. A social history, including the attitude of the patient and his or her next of kin or guardian toward the operation.

3. The sworn consent of the person to be sterilized except when the individual is under 21 years of age or mentally unsound, in

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which case the sworn consent of the person's spouse, parent, next of kin or guardian is necessary.

4. The name and address of the surgeon who is to perform the procedure.

5. In the event of feeblemindedness, the patient's intelligence quotient.

The individual's own rights are clearly protected by due legal processes, and there is a specific section of the law which relieves the surgeon of any responsibility for performing the operation. All pertinent forms may be obtained through the Department of Public Welfare. Intelligence tests, if not otherwise obtainable, can be arranged for through the State Board of Public Welfare.

North Carolina is considered to have one of the best eugenics laws in the nation, and the number of individuals sterilized under this law is high in comparison with the rest of the nation. Woodside[2] has pointed out however, that the number of sterilizations performed under this law has probably not been high enough.

Voluntary sterilization

Since there is no specific statute in this state regarding voluntary sterilization, lawyers invariably revert to English common law, which is the basis of legal practice in this state. Under this law, sterilization falls under the ancient crime of mayhem, which in most states is considered a felony. In the absence of any specific legal definition or any court test most lawyers believe that if a doctor were tried for performing a sterilization for a clear-cut medical indication the jury probably would vote in his favor. Miller and Dean[3], for instance, have stated: "If the consent of the person were given, it is probable under present day statutes that there would be no liability for mayhem, for consent given would usually warrant the conclusion that malice, a necessary element of the crime, was not present in the mind of the physician. *This would not necessarily follow, however, for malice on the part of the operator may exist concurrently with the consent on the part of the patient.*"

The evidence strongly suggests that voluntary sterilization can be interpreted as being illegal in this state. The only legal hint to the contrary is the following negative statement contained in the Eugenics Law, section 17: "Nothing contained in this article shall be construed to prevent the medical or surgical treatment for sound therapeutic reasons of any person in this State, by a physician or surgeon licensed in the State, which treatment may incidentally involve the nullification or destruction of the reproductive function." Most physicians feel that there are a number of sound medical indications for sterilization, and as has been stated previously, most lawyers feel that such indications would probably be acceptable to a jury.

Indications for Voluntary Sterilization

The Maternal Welfare Committee attempted to find out what conditions were being considered as indications for sterilization. A survey of physicians throughout North Carolina and the Southeastern states shows that the most common indication for sterilization is hypertensive cardiovascular disease in all of its forms.

Hypertensive cardiovascular disease

This classification includes benign or malignant hypertension, glomerulonephritis, certain unusual cases of recurrent pyelonephritis, and recurrent toxemia of pregnancy.

Each case must be individualized. In general, sterilization is recommended for those patients who have evidence of permanent vascular or renal damage. Malignant hypertension, since it is always characterized by such permanent damage, can be considered a sound indication for sterilization. Many patients with benign hypertension, on the other hand, have no evidence of permanent vascular or renal damage and can, with ideal prenatal care, be carried to term without complications.

The extent of renal damage in patients who have glomerulonephritis determines the desirability of sterilization. Another indication for tubal ligation is recurrent pyelonephritis, caused by an organism which does not respond to modern antibiotic therapy and production of definite renal damage, as evidenced by function studies.

There are some patients in whom adequate prenatal care does not prevent the development of rather severe pre-eclampsia with each pregnancy, and we feel that sterilization is indicated in these cases. The analysis of the first thousand maternal deaths in this state revealed that 26 per cent were due to toxemia of pregnancy. Further study of these cases showed that approximately 10 per cent of them should have been sterilized previously and about 8 per cent should have had therapeutic abortions early in the pregnancy.

Heart disease

Most cases of heart disease in women of the childbearing age are due to rheumatic heart disease, though a few cases of congenital heart disease are seen. Coronary disease is rare. Many of the patients with congenital heart disease have lesions which are amenable to surgery, and are, therefore, not necessarily candidates for tubal ligation. There is substantial agreement in the literature that most patients with rheumatic heart disease tolerate pregnancy very well if they are properly managed. There are a few, however, who do poorly; and for this reason it is also agreed that tubal ligation is indicated in patients who have had previous congestive failure.

Tuberculosis

There is not complete agreement as to the indications for sterilization in patients with active or inactive tuberculosis. Certainly the patient who has active tuberculosis should not become pregnant. If the disease is in an early stage, however, the chances are that the lesion will heal so well that the patient can consider childbearing some time in the future. Among patients with inactive tuberculosis there are a certain number who have had such extensive pulmonary disease and such a marked reduction of pulmonary function that they will not be able to tolerate pregnancy. These patients deserve sterilization. Likewise, patients who have more than minimal involvement and who live under poor economic and social conditions should probably not be permitted to have further pregnancies. Finally, there is a group of patients who, because they have had tuberculosis, have a marked fear of pregnancy. Many physicians feel that tubal ligation is justified for this group of women.

Hereditary diseases

While no specific criteria for sterilization in this extremely large group of diseases can be established, certain general principles may be laid down. The problem was submitted to Dr. Nash Herndon, geneticist at the Bowman Gray School of Medicine, who divided the diseases into two groups. The first consists of those diseases in which sterilization might be justified on the patient's request. Before sterilization is performed on a woman in this group, the following conditions should be met:

1. The mechanism by which the condition is inherited should be well known.

2. The complete genetic background of the couple in question should be carefully investigated. Following this investigation, the probable incidence of abnormality among their children should be determined. (This investigation is essential, because the same disease may be inherited in an entirely different manner in different families.)

3. The level of the required clinical severity of the expected defects should be decided for each family by the physician.

4. The degree of risk which the couple is willing to assume for having a defective child should be decided individually for each family. For instance, a risk of 25 per cent might be acceptable to one couple without children, but not acceptable to another couple who perhaps have three or four children.

The second group of diseases consists of those ailments, such as Huntington's chorea, which are known to be inherited in a high percentage of cases, and where the defect is always severe.

Psychiatric disturbances

There are certain psychiatric indications for sterilization, many of which fall under the Eugenics Law and are better handled through this medium. On the other hand, there are a great many patients who are not subject to this law but who have severe psychic disease which could well lead to the disruption of a family, to suicide, or to some other equally grave result if continued pregnancies are permitted. If the physician of such a patient feels that sterilization, or interruption of a pregnancy, is indicated, it is well for him to seek the advice not only of another obstetrician, general practitioner or internist, but also of a psychiatrist, and to obtain from the latter a clear statement as to why he feels the procedure is necessary.

Repeated cesarean sections

There is some difference of opinion regarding cesarean sections as an indication for tubal ligation. From the Committee's survey of physicians and obstetricians, it would appear that the general practice throughout the country is to perform a tubal ligation after two cesarean sections, if the family requests it. After three cesarean sections sterilization is recommended, and after four it is urged. This statement does not mean there is a hard

and fast rule that sterilization should be carried out on this basis in every patient. Among the factors which would affect such a decision are the reason for the initial cesarean section, the type of section performed, the patient's postoperative course, and the condition of the abdominal cavity on operation. Certainly with close control patients can have an unlimited number of cesarean sections; however, the risk of mortality and morbidity increases with each successive laparotomy.

Multiparity

Nowhere in the statutes of the State of North Carolina is there any mention of multiparity as a legal indication for sterilization. This fact has been emphasized previously, and yet multiparity is probably the indication for which tubal ligation is performed most frequently in the state. It should be stated again that the legality of voluntary sterilization has never been tested in court, so that there is no precedent in these cases.

Judging from the results of the survey throughout the Southeast, there appears to be no standard policy to govern elective ligation for multiparity. It is our opinion that elective tubal ligation should never be considered in a woman less than 30 years of age who has no more than five living children. Where multiple pregnancies have caused such gynecologic conditions as prolapse, cystocele, or rectocele, the necessary corrective surgery should be performed. Most gynecologists, however, feel that if a major plastic operation is done and the uterus is left *in situ*, a tubal ligation is indicated lest subsequent pregnancies necessitate further major surgery.

Conditions Which Are Not Indications For Sterilization

The American College of Surgeons has called attention to the fact that many women in the state are being sterilized in the absence of any legal or medical indication. It would be remiss not to mention the more common conditions which are sometimes erroneously considered as indications for tubal ligation.

Rh incompatibility

At the present time this condition seems to be outstanding among the reasons given for tubal ligation. The incidence of erythroblastosis fetalis, however, is very low. Only about 15 per cent of the female population is Rh negative. Since the same proportion of men are Rh negative, the possible incidence of Rh incompatibility is less than 15 per cent. Among couples when Rh incompatibility exists, one or both may be heterozygous. Even when the husband is homozygous Rh positive and the wife homozygous Rh negative, erythroblastosis does not inevitably occur. Furthermore the treatment of erythroblastosis, although not entirely satisfactory, yields fair results. Cases of fatal erythroblastosis recurring in the same family are so rare that this possibility would not seem to represent an indication for tubal ligation. It is conceivable that a woman who has had one or more erythroblastotic infants might still bear normal children. It should be pointed out that no law mentions Rh incompatibility as an adequate reason for sterilization.

Heart murmurs

We have seen a number of women who have been sterilized because of a heart murmur. Cardiac murmurs *per se* are not an indication for sterilization, even though actual heart disease may be present. It should also be pointed out that during pregnancy functional murmurs are quite common and do not necessarily indicate cardiac disease. As was stated previously, nearly all authorities agree that only women who have had cardiac failure are proper candidates for sterilization on the basis of heart disease.

Difficult delivery

One difficult delivery due to dystocia or inertia can hardly be considered an adequate indication for sterilization, since nearly all of these women can subsequently have a normal pregnancy and normal vaginal delivery. The remainder can be delivered by cesarean section if dystocia is sufficient to warrant it. A number of these women are badly frightened by their experience, and for this reason do not desire further pregnancies. A little effort on the part of the physician will convince them that the experience will not necessarily be repeated.

Hyperemesis gravidarum

Fifteen or twenty years ago women who had severe hyperemesis gravidarum were often subjected to therapeutic abortion, and to sterilization if the condition recurred in subsequent pregnancies. In view of the obvious psychogenic background of the disorder, such drastic measures hardly seem warranted, and have been largely supplanted by the modern therapy of this condition.

Repeated fetal loss

Repeated spontaneous abortions *per se* do not seem to justify sterilization. While the overall fertility of these patients is obviously low, it is still possible that they can have normal children. We have had several patients who have borne normal children after having seven successive miscarriages. In some patients who have repeated fetal losses psychiatric problems may develop which will call for sterilization.

Associated operative procedures

A small number of tubal ligations have been performed in this state in association with other operative procedures such as appendectomy. Many of these have been done without express permission of the patient—a practice which in itself is extremely dangerous. The courts have repeatedly convicted physicians for performing operative procedures which are not indicated and for which the patient did not give permission.

Lack of desire for children

Many patients who do not want children will present a wide variety of symptoms which cannot be substantiated by a physical examination. They are persistent in their demands for a sterilization, but unless there is adequate psychiatric indication, these demands should be refused.

Disability of husband

Some women have been sterilized because their husbands are disabled physically or otherwise. In our opinion this procedure is definitely contraindicated in such cases, since the woman may subsequently marry again. In this situation the husband should be rehabilitated by proper treatment, if possible; and if his condition warrants sterilization, it should be performed on him, not his wife.

Economic and social factors

Social and economic reasons alone do not justify sterilization, although it is probable that they are responsible for the majority of tubal ligations in the state. Occasionally the social and economic situation may justifiably be considered in evaluating a possible medical indication for sterilization, such as tuberculosis.

Conclusion

In view of the questionable legal status of sterilization for medical indications, the physician contemplating such a procedure should be careful to protect his own interest by having (1) an adequate and specific reason and (2) the signed recommendation of one or preferably two consultants on the patient's record prior to the procedure. In psychiatric cases it would be well to have the recommendation of a psychiatrist as well. In addition to the usual operative permit, a special permit which indicates specifically that sterilization is to be performed should be signed by the patient and her husband.

It is only fair to the patient to give her a complete explanation as to what is to be done. This explanation should make it perfectly clear that once the procedure is done there is little hope of plastic repair in case she should change her mind at a later date. Many patients who have been sterilized years previously have come to us pleading that some effort be made to repair the tubes. It should also be explained that the operation will not affect the patient's sexual life, but will simply serve to guard her health by preventing the possibility of future pregnancies.

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The menopause. We know how much is blamed upon the menopause. Women hardly reach adulthood before obscure symptoms are related to the approaching "change of life" and when the same symptoms persist beyond middle life they are still explained on the basis of menopause "from which they have not fully recovered." Nowadays the same is true in the male. Anything that happens to a man of middle age that cannot readily be explained on some other basis is attributed to gonadal insufficiency and he thereupon receives injections of testosterone. We must not forget that the responsibilities of middle life weigh more heavily upon the personality than diminution of gonadal secretion and are much more apt to be responsible for symptoms.—Weiss, E.: Emotional Factors in Cardiovascular Disease, Springfield, Inn., Charles C. Thomas, 1951, p. 80.

Hypotension. It is true, of course, that there is such a thing as essential hypotension but it is remarkably infrequent and has nothing to do with the thousands of inadequate people who limp through life leaning on the crutch of "low blood pressure" that has been furnished by some physician. We can say to these people what has been proved by long observation, that low blood pressure is not a disease—it is more likely to be an indication of longevity.—Weiss, E.: Emotional Factors in Cardiovascular Disease, Springfield, Ill., Charles C. Thomas, 1951, p. 64.

THE MANAGEMENT OF CYSTIC DISEASE OF THE LUNG

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DURHAM

Cysts of the lung occur in a multitude of pulmonary conditions. This is true because of the lung's inherent ability to form rounded cysts when there is loss of lung substance or escape of air into the interstitial space. The underlying disease may be constitutional, mechanical, or infectious.

Classification

Cysts of the lung may be classified in the following manner:

Congenital cysts

Cysts acquired as a result of acute pulmonary conditions

Cysts acquired as a result of chronic pulmonary conditions.

When it comes to classifying the individual cyst, one has an almost impossible task. Use of the presence of an epithelial lining alone as a criterion of the congenital origin of the cyst can be misleading. Bronchial epithelium under stimulus of infection and repair seems to have an unusual predisposition to grow into spaces in the lung. On the other hand, the lining of a congenital cyst may be distorted or absent on account of infection. The presence of elements of the bronchial wall in a cyst has been used by some as an indication of the congenital origin of a cyst[1].

The origin of the congenital cysts is probably the result of the failure of the development of the bronchus[2]. Congenital cysts may be single or multiple. The cysts not connected with the tracheobronchial tree will be excluded from this discussion, as, clinically, they frequently behave as mediastinal cysts. Multiple bronchial cysts may simulate bronchiectasis. Again, for reasons already outlined, it may be impossible by histologic means alone to separate congenital bronchiectasis from the acquired type.

Acquired pulmonary cysts due to acute lung changes are not uncommon. They may be impossible to separate clinically and histologically from congenital cysts. Trauma, pneumonia, and aspiration may all be implicated in the etiology. Bronchial and bronchiolar obstruction is important in the pathogenesis of acquired cysts. When in addition to bronchial obstruction there is pulmonary necrosis, the cysts become quite large. The longer the area remains inflated or distended, the greater the chances that the cysts will be lined with epithelium.

The third type of lung cyst is an acquired cyst due to chronic pulmonary changes. The etiology may be as varied as there are agents that infect and distort the lung. Under this group are included the cysts associated with emphysema, apical cysts from healed pulmonary tuberculosis, scleroderma, and other conditions causing bronchial and bronchiolar obstruction.

A "check-valve" which causes the bronchus to close on expiration in any of the three types of cysts may play a major role, not only in the development of the cyst, but also in its persistence. Congenital as well as acquired cysts may only cause symptoms when the bronchus leading to it closes completely, or almost completely, in expiration. As a result of this change the cysts may retain fluid or become inflated. In acquired cysts, the resolution of the bronchial occlusion may be followed by disappearance of the cyst. In some instances collateral respiration might serve to keep the cyst inflated when the bronchus leading to it is completely occluded.

Review of Cases

In this review the acquired cysts due to chronic lung changes were excluded, as the cause, treatment, and prognosis are all so different. Most of the cysts in this study group had their beginning in infancy and childhood, though at the time of treatment some of the patients were adults. Some of these cases could be classified as lung abscesses, and perhaps some of our cases of lung abscesses rightly belong in this group.

There were 29 cases in the group. Ten were due to acute lung changes, while 2 resulted from trauma and 8 from infection. Nineteen were congenital, with 9 simulating acquired bronchiectasis. In classifying the cases as congenital, the presence of a definite epithelial lining was the most important single criterion, though the history and age of onset were other considerations. The acquired cysts were all either lacking in epithelial lining or never came to surgery for identification.

The cause for referral to the hospital in 22

Read before the Section on Radiology, Medical Society of the State of North Carolina, Pinehurst, May 6, 1952.

From the Division of Thoracic Surgery, Duke University School of Medicine, Durham, North Carolina.

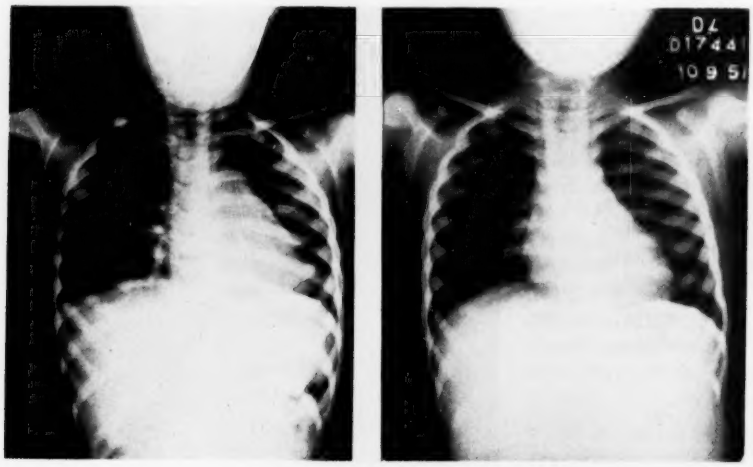

Fig. 1. Roentgenograms showing a lung cyst in a child noted after injury. The cyst disappeared spontaneously in three months.

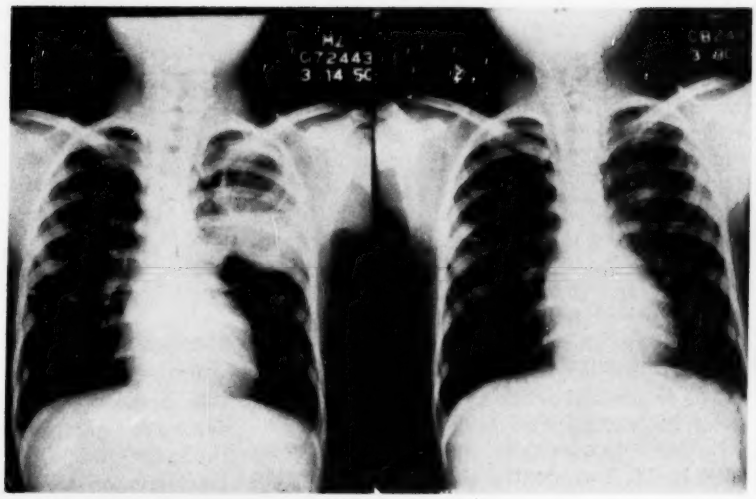

Fig. 2. Congenital cysts of the left upper lobe filled with purulent material. After conservative treatment the infection cleared, but the thin-walled cysts remained.

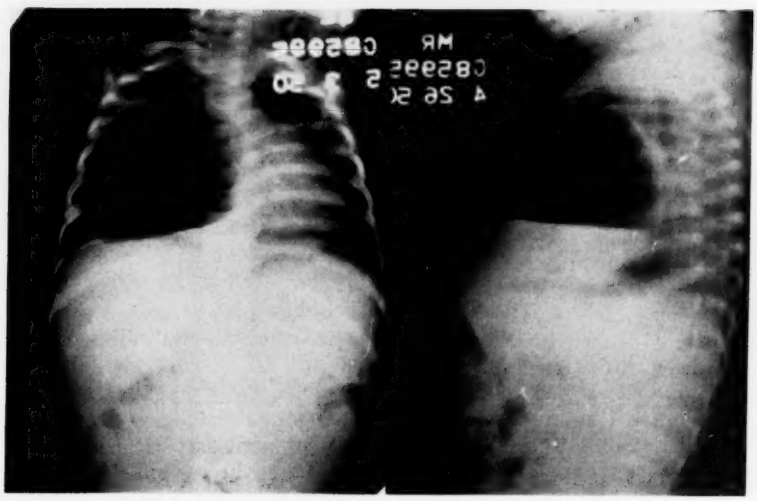

Fig. 3. Roentgenograms demonstrating a large inflated cyst in a 4 month old child. Excision was necessary because of respiratory embarrassment.

cases was infection, while in 2 cases acute respiratory distress was the chief complaint. In 3 cases the cysts were incidental findings. There was one case in an infant associated with pancreatic disease proven by autopsy.

Empyema was associated with the cysts in 5 cases. In 1 the empyema subsided without drainage, while in the other 4, drainage was needed. Three of the patients subsequently had to have an epithelial-lined cyst excised, perhaps indicating that the original condition was an infected and inflated cyst. One patient is at present symptom-free, but, where formerly there were multiple cysts, only one still persists.

Of unusual interest in this group of cases were the 4 cysts that spontaneously regressed. Two were the result of crushing injuries to the chest, one being bilateral and associated with pneumothorax. As infection did not occur; the cysts were without symptoms. One of the cases was listed above as being associated with an empyema. The second case regressed under antibiotic therapy and postural exercise.

In the 9 cases of congenital cystic bronchiectasis, 1 was too extensive for surgical treatment. The other 8 patients have had excision of the involved lung. In classifying these cases under congenital cystic disease, the onset and the odd changes on bronchography were the main differential points.

The treatment of the cysts consisted of excision in 23 cases. Pneumonectomy was necessary in 9, while a partial pneumonectomy was done in 14. Two deaths occurred, both prior to 1947.

Comment

In studying such a group of cases, one becomes almost hopelessly confused in trying either by clinical or histologic study to separate the congenital from the acute acquired cysts. There is only one practical reason for making this effort. In some instances the acute, acquired cysts, whether resulting from trauma or infection, will spontaneously subside. This occurs when the bronchus leading to the cyst returns to its normal size, after it may have been partially or completely occluded. Caffey[3] reports some 21 cases of cysts occurring after acute lung infection. These lesions were called pneumatoceles, and all spontaneously regressed. Figure I shows a cyst noted in a child after an automobile accident; this cyst subsequently disappeared. The cyst could have developed following aspiration or interstitial rupture of a bronchus.

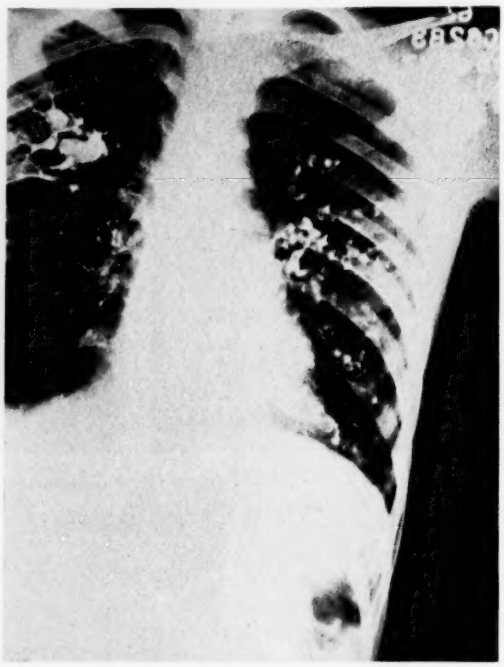

Fig. 4. Roentgenogram showing cystic bronchiectasis in a 20 year old male who had symptoms of only a few months' duration. The most interesting point is the normal appearance of the bronchi originating from the cystic bronchus.

Patients with cysts, as a rule, are hospitalized because of infection; and, whether the cysts are congenital or acquired, they present the same clinical picture. The patients are all first treated with appropriate antibacterial agents; and then, after the infection is controlled and the cyst does not disappear in a reasonable time, surgery has to be done. Figure 2 illustrates a congenital cyst in a child who had had several episodes of infection. A thin-walled multiloculated cyst remained, and had to be excised.

In certain instances, as shown in figure 3, the cyst may reach such size and interfere with respiratory exchange to such a degree that it has to be removed as an emergency.

The mere fact that such cysts are present in infancy does not necessarily indicate that they are congenital. Of 2 such cases in this group, 1 of the cysts was congenital and the other was acquired.

Nine cases of congenital cystic bronchiectasis were included in the group. Because of the history, the bizarre distribution of the dis-

ease, and the peculiarities of the bronchi, it was felt that such lesions were congenital. Figure 4 demonstrates such a case. The origin of small normal bronchi from one of these large cysts is considered significant. The patient was well until he reached the age of 18, at which time he first had a respiratory infection.

Conclusion

Congenital cysts of the lung when connected with a bronchus cannot be differentiated with any degree of accuracy from acute, acquired lung cysts.

Excision should be deferred until the infection clears, and it is certain the cyst is not going to regress spontaneously. Cysts occurring during and after pneumonia or trauma are particularly prone to regress.

In the infant, marked inflation of the cysts, whether congenital or acquired, may demand emergency treatment.

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Discussion

Dr. Holmack: Do you see many of these cysts in the newborn or in the first year of life?

Dr. Sealy: They are not very common in the newborn, a fact that has been used to support the theory that the cysts are not congenital.

Dr. George J. Baylin (Durham): I would like to comment on that. That argument has been used for a long time as proof that the cysts are not congenital. The lungs do not start growing as soon as the baby is born, according to many people. Perhaps it is important that the cysts should form afterward. The fact that some of these cysts have an aberrant systemic blood supply is extremely important to me. It is going to be difficult to prove that a cyst which gets its blood supply from the aorta is not congenital.

For every employee absent because of illness there are probably a dozen present who, because of impaired health, are capable merely of going through the motions of doing something. Among these are the conscientious fools with acute respiratory infections, generously spreading infection among their co-workers. Included also are many with chronic, unrecognized, and untreated disorders. In general the frequency of impairment, as measured by reduced effectiveness, is in inverse proportion to the severity. Here is a fertile field for health education. —Edward J. Stieglitz: A Future for Preventive Medicine, New York, The Commonwealth Fund, 1945, p. 52.

THE MANAGEMENT OF SYMPTOMLESS INTRATHORACIC LESIONS

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CHARLOTTE

Chest roentgenograms are now frequently made as a result of periodic health examinations, the mass screening of the population by means of mobile photofluoroscopic units, and as a routine procedure in hospital admissions. This mass survey of the population has uncovered, in addition to tuberculosis disease, many unsuspected intrathoracic lesions such as heart disease, mediastinal tumors, pulmonary tumors, and other abnormalities. Their discovery now creates a real problem for the physician. Whereas formerly patients with intrathoracic disease sought consultation only after distressing symptoms had developed, today it becomes mandatory for the physician to advise these patients as to the proper course to take when symptomless shadows are noted.

Unquestionably, the medical profession is aware of and alert to the necessity for early recognition and treatment of tuberculosis. There has been, however, a strong tendency to ignore abnormal chest roentgen findings once tuberculosis has been excluded. This, I think, can in a large measure be attributed to the belief held by most physicians that a definite diagnosis of chest lesions other than obvious pneumonia and tuberculosis, is associated with insurmountable difficulties. Furthermore, exploratory thoracotomy, with a prolonged and difficult morbidity and an unwarranted high mortality, is envisioned. In the light of our present knowledge, such fears are unwarranted.

During the past 12 months our group has performed 127 thoracotomies for the removal of benign and malignant tumors, bronchiectasis, and mediastinal tumors. In this group there were but 2 deaths (due to the carbon dioxide syndrome) attributable to operation or anesthesia. A study of the life history of malignant lesions has shown that the only hope for their eradication rests on radical treatment instituted during the early period of growth. Thus it becomes imperative to determine the presence or absence of malignancy when symptomless lesions are observed

Read before the Section on Surgery Medical Society of the State of North Carolina, Pinehurst, May 6, 1952.

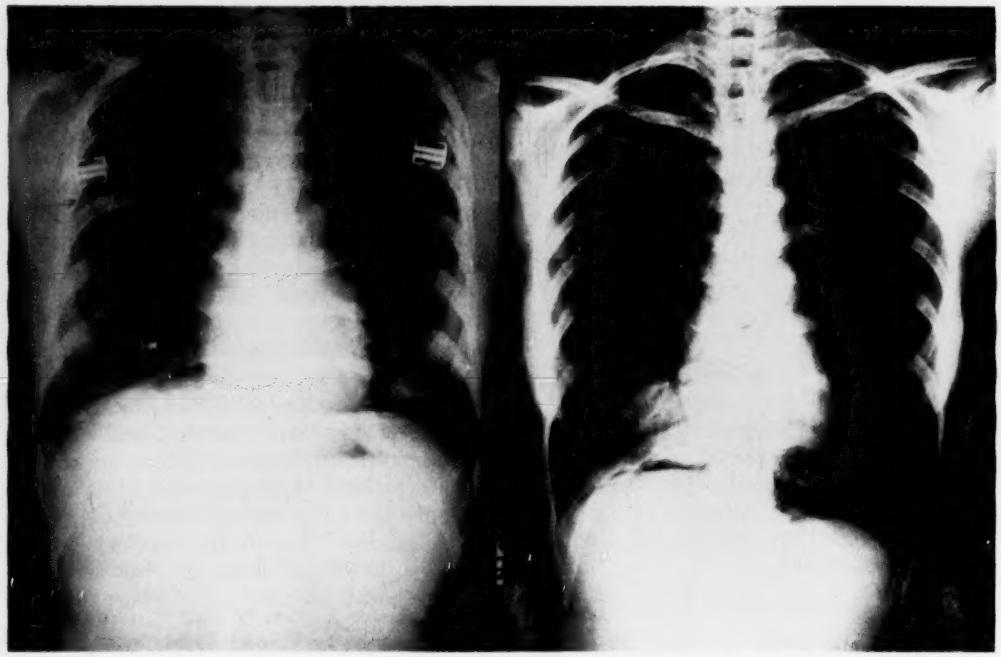

Fig. 1. The circular singular density in the right third intercostal space is not unlike a metastatic nodule.

Fig. 2. A shadow is seen in the right lower mediastinal area. By the use of pneumoperitoneum we were able to demonstrate that there was no relationship of this lesion to the intra-abdominal viscera. Also, a swallow of barium disclosed no compression of the esophagus.

in a chest film, and to prescribe the indicated therapy.

Diagnostic Procedures

Every possible diagnostic test should be carried out prior to major surgery. This includes, when indicated, such skin tests as tuberculin and coccidioidin. Radiographs on a 14 by 17 inch film must always include the lateral view as well as the posterior-anterior position. The lateral view not only permits localization, but also aids in determining the character and extent of the abnormality. If these studies are inconclusive, bronchograms might be of assistance, since the lipiodol affords a contrasting negative shadow. An experienced radiologist may on occasion suggest planigrams or oblique views. Smears and cultures of the sputum should be studied for predominating organisms and acid-fast bacilli. When neoplasm is suggested, the patient should be allowed to expectorate his pulmonary secretions into a bottle containing 70 per cent alcohol, which may then be studied for exfoliated malignant cells.

Bronchoscopic examination has a definite and important, but somewhat limited place in the diagnosis of intrapulmonary lesions, since one can only visualize the primary divisions of the bronchi through the bronchoscope. Nevertheless, it does permit direct observation for bronchial inflammation or stenosis. If a tumor is seen, a biopsy will provide a definite diagnosis. Unfortunately, only one third of bronchogenic malignant lesions can be visualized. However, an additional 50 per cent can be diagnosed by irrigating the bronchus with a few cubic centimeters of salt solution through the bronchoscope and examining the washings for malignant cells.

There remain a number of cases in which a definite diagnosis of a suspected malignant lesion cannot be achieved except by entering the thoracic cavity and obtaining a specimen for microscopic study. Exploratory thoracotomy is comparable to exploratory laparotomy. For years we have resorted to laparotomy for obscure or bizarre intra-abdominal conditions. It would seem illogical not to offer this same advantage to a patient with indeterminate intrathoracic disease.

It has been some 17 years since the first successful pneumonectomy was performed.

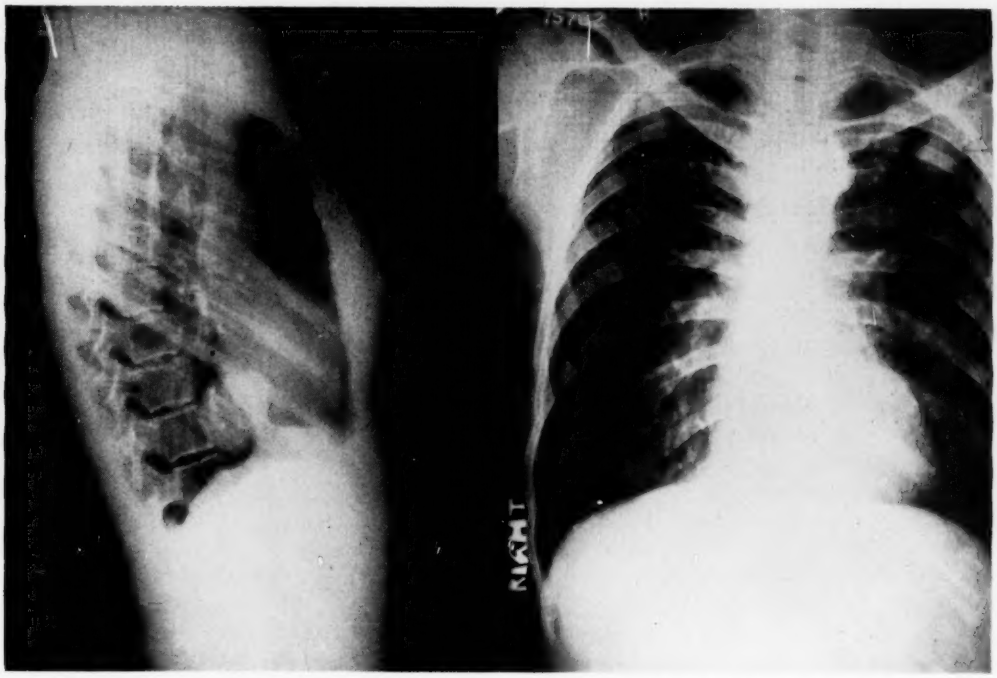

Fig. 3. A lateral view more clearly outlined the tumor.

Fig. 4. The discrete density in the left upper lobe is suggestive of a metastatic lesion.

Since then many hitherto incurable diseases of the thorax have come within the scope of surgical correction. This has been largely due to improvements in anesthesia, to a better comprehension of the physiopathologic conditions relative to the cardiopulmonary system, to the wealth of experience gained in managing thoracic surgical problems, and to the added protection provided by adequate blood replacement and antibiotic therapy. It should be emphasized that careful pre- and post-operative nursing and medical supervision are required for patients with intrathoracic changes. These improvements in management have reduced the morbidity and mortality to the present unbelievably low level.

The Risk of Delayed Diagnosis

Reluctance to perform an exploratory thoracotomy may lead to an unjustifiable delay in diagnosis and treatment. By procrastinating we may permit a curable case to become incurable. I would like to support this statement by presenting a few cases in which the policy of watching waiting was adopted.

Case 1

The patient was a 19 year old college student who appeared with roentgenograms made on a routine examination 14 months previously. These films disclosed a coin-like shadow in the periphery and at the base of the right upper lobe of the lung. Throughout the entire period she had remained symptomless. Recent roentgenograms demonstrated a slight enlargement of this shadow, which now measured 3 cm. in diameter (fig. 1). Since it resembled a metastasis, a careful search for a primary lesion was made, but none was found. The sputum analysis and bronchoscopy were unrevealing. At thoracotomy a discrete tumor was found at the base of the right upper lobe. It was surprising to find the hilar structures studded with nodules extending along the superior vena cava. Histologic examination of a specimen from a lymph node overlying this great vessel disclosed highly anaplastic adenocarcinoma. This extensive mediastinal spread made it unwise to remove the entire lung, and therefore only the involved lobe and palpable nodes were extirpated. The patient's postoperative course was uneventful and she has remained free of pulmonary symptoms for 16 months since operation.

Obviously this patient's prognosis is manifestly poor. Any similar coin-like lesion, without symptoms and situated in the periphery of the lung, should be explored without exception, even when the lesion demonstrates calcification, unless all signs point to healed tuberculosis.

Case 2

The patient was a 31 year old white female school teacher who had no symptoms referable to her respiratory tract. She reported that one year previously a mobile x-ray unit film had revealed a

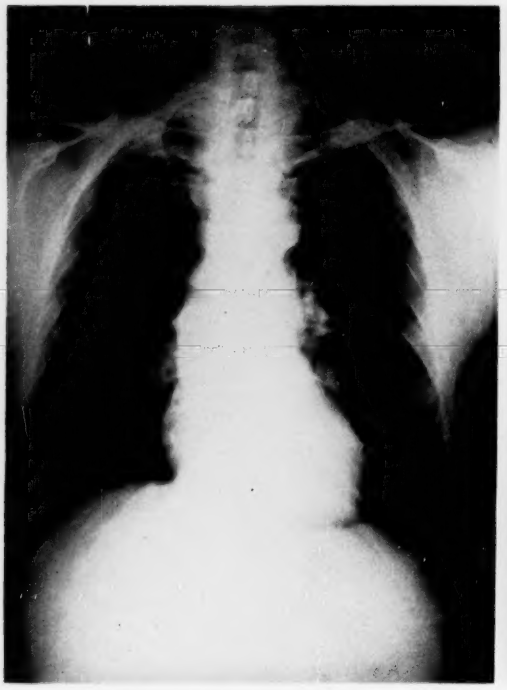

Fig. 5. This roentgenogram illustrates how a posterior-anterior view of a chest is likely to miss revealing mediastinal tumors.

Fig. 6. A lateral roentgenogram taken from the same patient definitely outlines a calcified tumor overlying the heart.

density in her right lower lobe, which was diagnosed as "most likely a benign cyst." No appreciable change occurred in the films made over a period of five and one-half months (figs. 2 and 3). The patient insisted that she had cancer, but only in recent weeks had a dull pain developed in the region of the fourth costosternal junction. Systemic studies were negative. At thoracotomy an India rubber-like nodule measuring 5 cm. in diameter was palpated in the right lower lobe. Inasmuch as there were no enlarged hilar lymph nodes, it was assumed that the lesion was benign, and a right lower lobectomy was performed. Pathologic sections disclosed an angiosarcoma. Interestingly, three to four weeks after the operation the original site of pain in the chest wall became edamatous and reddened. Histologic examination of sections from this area disclosed the same type tumor as found in the lung. The patient died three years later, partly paralyzed and riddled with metastasis to her spine and opposite lung.

To postulate whether or not resection twelve months previously would have prevented the spread of this tumor is of academic interest. Certainly, until some better method is discovered, we are obliged to adhere to the well founded principle that the sooner a malignant growth is removed, the greater the incidence of cure. If one waits for definite roentgen evidence of malignant changes in peripheral lesions, the chances for a cure will be distressingly small.

Case 3

A 55 year old white man was admitted to the hospital because of arthritic knees and ankles. He had no respiratory symptoms, but a routine chest film showed a peripheral circular shadow in the left apex which measured approximately 2 cm. (fig. 4). On careful questioning, he admitted that he had always had a slight chronic cough which possibly had undergone a change in character during the past four months. This had caused him no concern. Because the roentgen appearance simulated metastatic tumor, a thorough study for a primary site was undertaken. The only suggestive abnormality was in the left kidney, where one of the superior calyces failed to fill on intravenous pyelography. The kidney was explored but no lesion was found. The sputum and bronchial washings were negative for tumor cells. An exploratory thoracotomy was then undertaken, and a discrete tumor was found in the left upper lobe. Since no hilar nodules could be detected, a left upper lobectomy was done. Microscopic sections sent to four pathologists were reported as "papillary adenocarcinoma," "alveolar cell carcinoma," "metastatic carcinoma," and "adenomyosis of the lung." For a period of four years this patient has had no recurrence of his cough or of any respiratory complaint.

Even though the pathologists differed and were unable to diagnose this tumor accurately because of its highly anaplastic nature, one can assume that a cure may have been effected by its early removal.

Now that the population is conscious of the

advisability of having annual chest films, we would be negligent in our responsibility if we did not appreciate the fact that many of these symptomless lesions represent either malignant or potentially malignant tumors. Some patients offering no symptoms will on careful interrogation admit to either a chronic cough which has changed in character or the development of a recent hacking cough unrelieved by the usual cough remedies. By the same token that we recognize changes in bowel habits as suggestive of malignancy in the large bowel, so should we accept a change in the character of a cough in the same light.

In many instances roentgenograms taken in only one plane may not reveal the existence of an intrathoracic lesion. It appears inconsistent that many radiologists will refuse to interpret roentgenograms of the knee joint or bones unless two views are obtained, while others are quite willing to review chest films solely from a posterior-anterior position. The localization, extent, and character of the lesion can only be determined from combined posterior-anterior and lateral views. Occasionally the tumor can be seen in only one plane. The following case is illustrative:

Case 4

This 55 year old white male had no respiratory complaints, although he did report a mild cough which he had had for a number of years. Routine posterior-anterior chest film did not show any definite lesions (fig. 5). The roentgenogram taken in the lateral position (fig. 6) clearly demonstrated a retrosternal calcified tumor which was assumed to be a dermoid cyst. On exploration we were surprised to learn that this tumor was a calcified aneurysm arising from the ascending aorta. Needless to say, the chest was closed. Luckily, the patient has remained symptomless.

Discovery of this tumor might be regarded as unfortunate since continued resection might have been disastrous. The case does demonstrate, however, that a large lesion may be overlooked when only one roentgen view is taken.

Comment

The foregoing cases show that a large percentage of symptomless tumors are malignant. Therefore, all such lesions should be explored if we are to salvage these unfortunate individuals. It is true that this surgical rule may lead one to operate on benign lesions. The possibility of resecting benign tumors should not deter a physician from advising exploratory thoracotomy, since most chronic intrathoracic diseases are dangerous. Surgery for benign intrathoracic tumors is attended with a low morbidity and mortality rate. In many chest clinics, including ours, there have been no deaths from removal of benign growths. On the other hand, there is the ever-present hazard that benign tumors may become malignant. The continual presence of a chronic pulmonary infection not only will harass and weaken a patient but also may shorten his life span. Nor should there be any qualms over resecting a tuberculoma, as patients with this lesion show an inherent inability to control the local pathologic process, which may later break down and be disseminated.

Summary

1. The increasing number of symptomless intrathoracic lesions which are being discovered by better diagnostic methods presents a new problem in management.

2. The danger of watchful waiting in cases of symptomless lesions is real, as proved by the 4 cases reported and the citation of numerous other cases.

3. Exploratory thoracotomy is recommended in all cases of unidentified and symptomless intrathoracic lesions.

4. Experimental deep roentgen therapy as a therapeutic test is mentioned only to be condemned.

Discussion

Dr. W. C. Sealy (Durham): I want to commend Dr. Sanger on his fine presentation and substantiate his statistics with our experience.

Our cases number 23. These were all asymptomatic and not associated with a positive sputum. Over half of them were neoplasms, and half were malignant neoplasms of the lung.

The following cases emphasize that one cannot follow these lesions expectantly.

The first patient was a woman 36 years of age who had been in the Eastern North Carolina Sanatorium with a positive sputum and a cavity in her right apex. In the six months follow-up examination it was noted that she had a round lesion in her lower lung field. This was excised and found to be a carcinoma with lymph node metastases.

The second patient was 26 years of age. The lesion shown in the x-ray film was asymptomatic, but proved to be a cancer.

The third patient was a young colored man of about 31 years of age who was first seen with a small lesion in the lower lobe of his left lung. He refused treatment and came back two years later with widespread lung involvement and metastases to cervical lymph nodes.

In closing, I would like to stress that of all the easy ways to detect cancer in early stages, a chest roentgenogram is the simplest. It costs very little and should be a part of every survey in cancer detection centers.

SINS OF COMMISSION IN PEDIATRIC PRACTICE

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and
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Physicians occupy a peculiar relationship to their patient. The patient comes to one of us with a complaint, and we, because of our training and position, often feel compelled to "do something" about the situation, even if we are not certain whether what we do will be good or bad for the patient. None of us expects to harm the patient, but often we do something in the hope that it will be helpful and rationalize the deed by saying "at least it will do no harm."

In our opinion, the attitude implied in the statement, "at least it will do no harm," is unscientific and perhaps harmful. Because a number of situations of this type have arisen recently, we resolved to investigate some of the common sins of commission in pediatric practice. We wondered if at times no treatment at all is not the proper course to follow.

Older and more experienced physicians will easily recollect many procedures which were commonly practiced in the past but which have since been discarded as ineffectual if not harmful. Among them one might mention routine removal of the vernix caseosa from the newborn, and the swabbing of the newborn's mouth for mucus. The use of vaccination shields and abdominal binders is almost unknown now. Many will remember the overzealous use of antrotomy and myringotomy in the treatment of diarrhea in children.

Treatment of the Newborn

Some months past we had the experience of seeing a newborn who had two teeth. These neonatal teeth were of interest not only to the parents, but to all attending nurses and physicians. There was a good deal of concern as to whether or not to extract the teeth. Actually, natal and neonatal teeth are usually true primary teeth[1]—that is, prematurely erupted lower central incisors—and indiscriminate extraction of these teeth is unwise. The risk of lacerating the mother's nipple does not constitute grounds for extraction. Although teeth may appear to be loose, extraction may be quite difficult and severe hemorrhage may result. In general it would seem better to leave these teeth to serve their primary purpose.

More common than neonatal teeth is the problem of tongue-tie. Clipping of the frenum is often done routinely, though in the past year we have seen a child with micrognathia and a cleft palate who had a great deal of trouble with tongue-swallowing following this operation. Tongue-tie never causes difficulty in nursing and has little, if any, effect on speech, never causing delay. In all but exceptional cases, conservatism is indicated in the management of tongue-tie.

Upper labial frenum has been accused of causing the separation of incisors that one often sees. There is little evidence that this is true, and eruption of the permanent teeth almost always corrects the condition[3]. More important is the fact that, although orthodontic appliances are occasionally necessary to close this gap, there is no evidence that removal of the frenum aids the process, and, indeed, the resulting scar tissue may make orthodontic correction more difficult.

One of the oldest operations known to man is that of circumcision. The procedure is in most instances done as a matter of routine—an obstetric encore— often at the parent's insistence, and without much thought as to its advantages and disadvantages. There are the advantages, perhaps, of making it easier to keep the penis clean and probably of preventing the rare occurrence of carcinoma of the penis. However, there are also the disadvantages of the possible development of the meatal ulcer described by Brennemann[4] and the risk of hemorrhage or infection. Careful studies by the British[5] show that with minimal care—that is, without instrumental retraction of the foreskin—90 per cent of boys at the age of 3 years will have a retractible foreskin, and in the remaining 10 per cent it is a simple matter to render the prepuce separate from the glans by gentle manipulation. How often we have seen physicians and mothers work at reducing the phimosis, which is physiologic and would cure itself. The arguments for and against circumcision are so nearly equal that it is our practice to leave the decision up to the family. If circumcision is not done, we feel that retraction of the foreskin is a meddlesome procedure, especially

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before the age of 3 years. Circumcision after the neonatal period requires careful preparation of the child, in view of the well known adverse psychogenic impact that this operation has on the older child.

Treatment of the Infant

In the treatment of many disturbances related to the gastrointestinal tract of infants —that is, constipation, diarrhea, poor appetite, "colic," and spitting up—changes in formulas are often recommended. Twenty to thirty years ago pediatricians believed that minor changes in carbohydrate composition and other similar changes were significant in the management of the baby. The preparation of formulas was a complicated procedure. Time has proved that the simpler the formula, the easier it is for mother and baby to get along together. A recent study using evaporated milk simply diluted with water, without the addition of carbohydrate, showed that babies on this formula gained as well and as rapidly, needed solid foods no earlier, and had no more "constipation" than they did on more complex formulas[6].

The natural and preferred way to feed the human infant is at his mother's breast. However, in this day when breast-feeding is in a state of relative neglect and when it is more fashionable to feed babies from the bottle, it would seem expedient to do this in as simple and practical a way as possible. It has seemed to us that a little further inquiry into the mother's complaints and the relief of her anxiety by simply listening to her problems can do more to solve feeding problems[7] than the use of the "crutch" such as a change in formula.

One extremely common condition, often treated by the grandmother, if not the physician, is the umbilical hernia. This is more common in the Negro than in the white race. There are all degrees of herniation. Most hernias remedy themselves as the child grows, begins to sit, and strengthens his abdominal muscles. Strapping is a common practice, but even quite large hernias correct themselves without strapping, and those requiring surgery, which are rare, will probably not be affected by any sort of strapping.

Another interesting problem concerns the treatment of raised hemangiomas. The capillary hemangioma or "port wine stain" neither goes away nor can it be satisfactorily treated by any means. However, there is excellent evidence[8] that the raised hemangiomas, or strawberry marks, will go away by themselves if left alone, and the eventual cosmetic effect will be as good as, and usually better than, that achieved by treatment. The usual history of these lesions is appearance at birth or shortly thereafter, gradual growth in size until 7 to 12 months of age, and then gradual fading, beginning in the center, until they disappear by the time the child is 3 to 5 years of age. There is no doubt that the use of radium, roentgen rays, dry ice, or the injection of sclerosing agents will accelerate this process. Therefore, if one sees these lesions at an early date and is careful to avoid overtreatment, there is no objection to treatment. However, we deplore the surgical scars and burns we have seen, especially when the therapy has been done at a stage when further growth of the lesion would not occur.

Treatment of the Child

Tonsillectomy and adenoidectomy is probably the operation most frequently performed during childhood. The question as to the need for this operation has been discussed by others and will not be debated here. It is a fact that many tonsillectomies are done indiscriminately and that the decision to operate often depends more on the physician's feelings than on the child's health. We would do well to remember the results of a survey of 1,000 "well" children of 11 years of age in New York City public schools[9], 61 per cent of whom were found to have had tonsillectomies. When the remaining 39 per cent were re-examined by physicians, 45 per cent were advised to have tonsillectomies. Those rejected were re-examined by another group of physicians who recommended the operation for 46 per cent of the number. Those remaining were examined a third time, and a similar percentage were advised to have tonsillectomy. Thus after three examinations there remained only 65 children who had not been recommended for tonsillectomy.

School nurses and casual examiners are often impressed with the size of tonsils, especially during the early school years, when lymphoid tissue growth is at its peak. Size alone, therefore, is obviously a very poor criterion. The operation is not without hazard, since it is estimated that about 80 persons die each year from anesthesia for this operation[10].

The relationship of tonsillectomy and adenoidectomy to bulbar forms of poliomyelitis

is well established and needs little emphasis. The relationship of the operation to psychiatric problems in children is now gaining greater attention[11]. It would seem that many tonsillectomies and adenoidectomies are performed unnecessarily, and harm may well come from this operation which is usually considered a minor one and without hazard.

Brief mention should be made of a number of other conditions that are self-limited but for which unnecessary therapy is frequently prescribed. Many children have had needless treatment for physiologic flat feet, bow legs, or knock knee in the first five years of life. Unnecessary manipulations, special shoes, and even operations have been ordered for such conditions, which will completely correct themselves under the beneficial progress of normal growth[12].

It may seem too obvious to point to the unnecessary use of antibiotics for the usual viral infections of childhood. Many a doctor, however, has been deluded into thinking that his use of these agents has caused the expected, spontaneous improvement of these infections. There are times, to be sure, when antibiotics should be used to prevent secondary bacterial infection, but one should have clear indications for each. Not only are physicians now learning the limitations of antibiotic therapy, but the families of our patients are beginning to question the indiscriminate use of a "shot" for every complaint.

Speaking of shots, we must deplore the growing popularity of "shot gun" vitamin, mineral, and hematinic combinations used either orally, or worse, parenterally for pallor, poor appetites, or the usual mild anemias of children.

Among other "abnormalities" of growth are the fat boys and girls, thought to be "endocrine problems," who are merely going through a period of overeating. Hypothyroidism as a cause of obesity in the child is extraordinarily rare. Even rarer is true hypogonadism that doesn't clear up with a few added years of growth. The fat boy with the small penis that used to be considered as an example of Froelich's syndrome needs no special therapy. His "undescended penis" will enlarge to respectable size in due course of events, if left alone.

Conclusion

There will be some disagreement about many of the questions raised in this discussion. We have presented, however, a number of representative conditions seen in everyday practice for which the normal process of growth and development is better than any therapy we might design. There must be times when the conscientious physician feels that therapy is indicated in these conditions for psychologic, social, or other reasons. In general, however, this is not good practice, since it constitutes an admission that "something is wrong with the child." Parents who consult the physician about their children are already anxious; and unnecessary treatment may only add to their anxiety. To do nothing is against all our training as physicians. Throughout medical school and hospital service we have sought ways "to do somthing" for the patient. To let Nature take its course is a difficult remedy to prescribe, but it is the test of the true physician and is often the lesser evil.

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Those places where infants are most apt to die are necessarily in the places where survivors are most apt to be sickly; and where, if they struggle through a scrofulous childhood to realize an abortive puberty, they beget a still sicklier brood than themselves, even less capable of labour and even less susceptible of education. It cannot be too distinctly recognized that a high local mortality of children must almost necessarily denote a high local prevalence of those causes which determine a degeneration of race. (Simon, 1857). Brit. M.J., Quoted by Norman B. Capon, M.D., April 15, 1950.

SOME CONCEPTS OF ACNE VULGARIS AND ITS THERAPY

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GREENSBORO

Diseases of the sebaceous glands are among the more common cutaneous disorders. The gland orifices are weak spots in the skin defense, and the glands are subject to several varieties of disease—benign neoplasm, cystic alteration, and infection.

Acne is a disease involving the pilosebaceous apparatus and appears characteristically in the areas where the oil glands are most abundant and active. These are known as seborrheic areas. The seborrheic habitus may often be recognized through two or three generations by the frequency of oily skin, coarse pores, dandruff, premature loss of hair, and a predisposition to blackheads and other lesions. The primary seborrheic areas are the scalp, particularly the margins and temporal and occipital areas; the forehead, nose, and paranasal skin; the ears, and the presternal and interscapular regions. The primary lesion of acne is the comedone, or blackhead, and the disease may remain as comedone acne. As a rule, however, infection of the oil plug occurs, with suppuration and pustule formation.

The various forms of acne vulgaris derive from many factors: the degree of involvement by comedones, infection of the lesions, sensitivity to the organism or organisms involved, the activity of the sebaceous glands, the degree of sebaceous stasis, dietary and possibly vitamin factors, endocrine activity, contact inoculation factors, gastrointestinal factors, certain psychoneurogenic factors, fatigue, and exhaustion.

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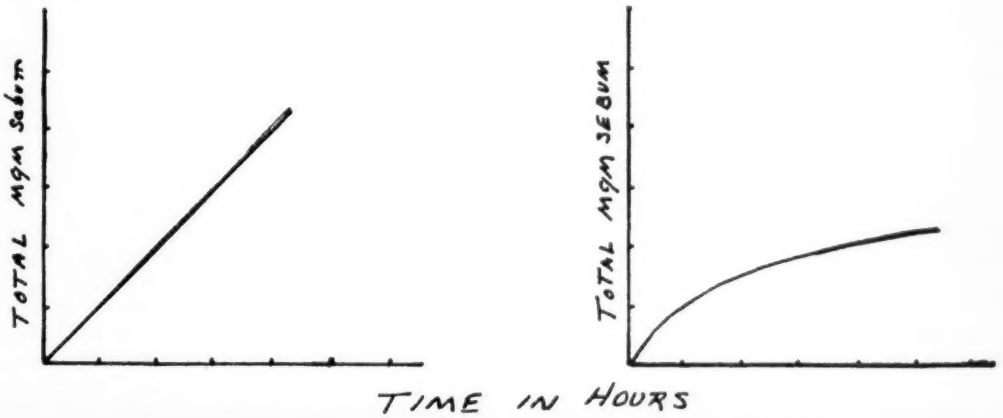
Secretion of the Sebaceous Glands

Sebum, the sebaceous material, is made up of fat, fatty acids, other fatty substances, some higher alcohols, sweat materials, and cellular debris. Its melting point is usually around skin surface temperature, and it is usually fluid at body temperature. On reaching the surface it spreads along the hairs and horny layer of skin to a thickness of 3 to 10 microns. Sebum comes to the surface until it reaches a saturation level and then stops. This surface layer must be removed or thinned before more oil leaves the duct. The graphs in figure 1 are not statistically correct but are only rough approximations of the possible oil stagnation of the infrequently cleaned skin.

The fact that sebum will freeze or solidify must also be considered. The melting point of fats and fatty acids may depend on the carbon chain length and on their iodine number. These factors may vary and, therefore, could also explain some comedone formation.

Acne is intimately connected with seborrhea, a fact which is easily appreciated in view of the involvement of the pilosebaceous apparatus, and seborrhea, like acne, manifests itself primarily at and after puberty. Bloch[2], and Henricksen and Ivey[3], state



Skin cleaned every two hours

Skin uncleaned

Figure 1.

that seborrhea appears so commonly at a determined age that it may almost be considered physiologic.

The relationship of pilosebaceous activity and the sexual hormones is quite obvious. Almost all physicians have seen cases of acne aggravated just before, during, or immediately following menstruation. Active acne after the climacterium is a rarity, and it has been fully established that eunuchs have neither seborrhea nor acne, and that a preexisting case of acne will disappear upon extirpation of the gonads. Eunuchs and eunuchoid individuals given androgenic hormones after the age of puberty will often experience seborrhea and acne vulgaris, and the eruption will disappear when the hormone is stopped[4].

Pathogenesis of Acne

Let us now consider acne and its pathogenesis in terms of a single or several closely approximated comedones.

When a child reaches the age of 10, the pilosebaceous apparatus is functioning normally; but later and rather suddenly, John or Ellen — John later than Ellen — hears the bugle note; the sex hormone complex is making itself felt. The pilosebaceous apparatus, like so many other systems of the body, responds to the call. In the present case, the adolescent comes from a family in which the seborrheic habitus is frequently found. Since before birth oil has seeped through the duct from the gland and spread over the epidermis, keeping it soft, pliable, and elastic. Fairly suddenly, however, along the inside of the duct the oil begins to congeal, and slowly, slowly, a plug is formed of gelled oil and epidermal cells. Yes, the epidermal cells lining the duct must also be considered, for like rust in the iron pipes of our plumbing system, prematurely and abnormally, keratization of the squamous cells at or near the mouth of the sebaceous duct may take place. The cells exfoliate and mix with the congealing sebum plugging the orifice, causing back pressure, stagnation, and further growth of the sebaceous plug. The plugs, like crystals in a super saturated solution, grow and the duct becomes dilated, producing comedones and cysts.

Staphylococci—normal inhabitants of the skin but possibly with increased virulence—and perhaps other bacteria seeking fertile soil for growth find these oil plugs. Here we have fats and fatty substances, sweetened by body sugars, maintained near body temperature, separated from the internal defense mechanism by the squamous cell epithelium lining the duct. Here we have culture media incubated and protected. After a short period of relative freedom from opposing forces, bacteria and toxins produced by the bacterial growth, and other factors stimulate or call out the body defenses. White cells migrate to the area; pustules are formed, producing the so-called acne pustulosa. Groups of pustules may join together and rupture in the cutis, and sebaceous cysts may become infected. The result is cystic acne. Allergies to the bacteria, bacterial by-products, damaged tissues, or secretions may develop. This form, manifested by terrible scarring, is called acne conglobatta. Bacterial allergies, factors of immunity, body chemistry, and so forth, may all be involved, separately or together, to produce the various forms and types of acne. This picture has been drawn rather loosely, and takes some liberties with scientific facts. Nevertheless, it sketches in simplified form the chain of events leading to that often tragic disease, acne vulgaris.

Treatment

The management of severe acne, whenever possible, certainly belongs in the hands of the specialist. This is at present, however, a rather ideal concept. Certainly, all youngsters with acne need medical aid. Early and continued treatment of this condition is very important. These blemishes are not adolescent bumps, for while activity may cease with maturity, procrastination and so called "advised therapeutic negligence" often leads to disfigurement.

Throughout the years, investigators have sought a one-drug or one-method of treatment that would cure all cases of acne. The many contributing factors to the disease have already been pointed out. It is often difficult to determine which of the primary and secondary factors are more important in any one specific case. X-ray, hormone, ultraviolet ray, antibiotic, and simple topical therapy, as well as diet, has each been tried as a single mode of attack against all cases of acne. While some interesting results have been obtained in certain cases, the unit approach must be judged a failure in the light of experience, mass study, and competitive investigation. The proper management of acne

must still be based on all possible etiologic factors and the therapeutic approach planned in the same way. Attention must be given to the special cases in which a single etiologic factor may predominate, but certainly in the average case multiple factors and multiple approaches to treatment must be considered.

Hormonal therapy

Since there can be little doubt that acne vulgaris is the result of influences directly or indirectly attributable to the development of the gonads and steroid hormones, this feature must be considered in its management. Proper hormonal therapy has resulted in rather spectacular improvements, giving rise to great enthusiasm on the part of some therapists. Again in the light of recent mass investigations, however, enthusiasm has waned, and at a recent conference on the subject I gathered that hormonal therapy is, as yet, regarded as just another weapon against some special cases of acne. Many of us hesitate to place any patient on hormone therapy in the absence of positive signs of hormonal deficiency. The time may not be far distant when an endocrinologic approach may be found to a large number of cases. That time is not yet here, and there are many students who doubt that hormones will ever be a panaceas.

Vitamins

It has only been a few years since the treatment of acne with large doses of vitamin A had its day. It is known that vitamin A deficiency and other xerotic conditions can produce keratotic plugs. Once again, however, mass study showed that vitamin A alone would not solve the problem. Some feel that it is of little value; conservative thought, however, tends to regard it as a possible agent in cases where vitamin A deficiency is the primary single factor.

Antibiotics

The new antibiotics have proved of great value in severe infected acne. Andrews[5] favored terramycin from his experience. Here again, however, each antibiotic may have its place, while none is a cure-all. The antibiotics attack the infecting bacteria only. The basic acne remains, and infection usually recurs on discontinuance of the antibiotic.

Topical agents

Many topical medicinal agents have been used in the treatment of this disease. Probably the most commonly used and generally accepted are those containing yellow sulphur, resorcinol, or combinations of the two. Numerous preparations containing differing portions of these two agents in lotions, powders, and paint—some good, and some not so good—are now on the market. It must be remembered that sensitivity to either ingredient may devolop, and different skins respond in differing degrees to the peeling effect of the drugs. Successful treatment requires in most cases a knowledge of each substance, its reaction on the skin, and the individual needs of each case. This one factor limits largely the use of proprietary topical agents. However, some of these preparations certainly seem to be beneficial, and a variation in the frequency of application will sometimes help where a change of proportion cannot be made. The old stand-by, lotia alba, must not be forgotten. It must be remembered that creams and ointments contribute to the oiliness of the skin, and therefore, possible stasis or stagnation of the sebaceous secretions, with increased plug formation.

Frequent washing of the face with soap and water is extremely important. This point becomes quite clear when one remembers the importance of removing the oil layer on the skin. Since a soap film may also contribute to back pressure, however, the soap must be thoroughly rinsed from the skin.

Carbon dioxide slush as a means of procuring adequate peeling has proven quite effective in certain hands. This technique requires some experience, but when properly applied is quite useful.

X-ray and ultraviolet ray

X-ray is definitely beneficial in some severe cases. This approach obviously belongs in the hands of the specialist.

The use of ultraviolet rays often seems of considerable value. Whether photosynthesis or bacterial stasis plays a part here is a moot question. Certainly, the keratolysis obtained by this agent aids greatly in the expulsion of the sebaceous plug. Experience with ultraviolet ray therapy is essential to attainment of the right degree of desquamation. Improper use may do more harm than good.

"Acne surgery"

There are many who believe—and there is a good deal of evidence to suggest—that skillfull "acne surgery," as it is called, is one of

the more important, if not the most important, therapeutic technique. Certainly, in a large number of cases the comedones will remain in the skin indefinitely if they are not surgically removed or extruded by an infection. Skillful handling of the pustules, cysts, and sinuses may certainly minimize the scars produced by the disease. Acne surgery also probably belongs in the hands of the experienced therapist. Indiscriminate use of the scapel and the comedone expressor may, instead of helping, add materially to the production of scars.

Diet

Diet plays an important part in many cases of acne, although how foods aggravate the disease is not entirely understood. It is probable that fats tend to increase the oiliness of the skin, and it is even possible that variations in the carbon chain length and iodine number of the various fats may contribute to variations in the freezing point of the sebaceous material. Sweets and starches in some cases, undoubtedly make it easier for the acne plug to become infected. Food allergies have been suggested as etiologic factors, but still remain unproved.

There can be little doubt, however, that in many cases the consumption of chocolate, nuts, sharp cheeses, pork and pork products, and overconsumption of fats and fish have caused flares, aggravated existing lesions, and seemingly contributed to the creation of new ones. Yet, there are acne patients who may eat all of these things without any apparent effect. In most cases of acne, I do not believe that a radical reduction in fat and carbohydrate intake is necessary, and in some underweight patients it may even be contraindicated.

A rather simple general rule for acne patients is as follows:

1. Discontinue eating chocolate, nuts, and sharp cheeses.
2. Avoid excessive eating of fats.
3. Eat sweets only at mealtime.

Most cases of acne are made worse by the use of bromides or iodides. These should be interdicted. Even iodized salt has been definitely incriminated in some cases.

Eradication of infection

Many patients have been helped by the eradication of foci of infection. Certainly, this step is vital to general well-being, although it will have to be admitted that some cases of acne vulgaris are neither made worse by the presence of the focus of infection nor improved by its eradication.

Summary

Acne is a disease of complex origin. So many primary and secondary factors contribute to its origin that the development of any single therapeutic approach is quite unlikely. Each case must be individually studied and therapy patterned accordingly.

Acne vulgaris is not an inconsequential disease. In most cases, it leaves varying degrees of disfigurement, self-limited though it usually is. It represents a real medical problem, for it affects predominantly adolescents and postadolescents at a time of life when their appearance is most important.

Time spent in case study and institution of general conservative measures is well worth while. The best treatment can effect only an arrest and can not be expected to produce a true causal cure. Nevertheless, adequate, correct, conservative therapy can and will save most individuals from disfigurement and the later psychic complexes that may so easily interfere with happiness and success.

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Discussion

Dr. Joseph Hitch (Raleigh): Dr. McRae's conservative review of acne vulgaris seems to me concise and accurate. I have the feeling that most general practitioners are somewhat bored with both the subject of acne and the patients who are afflicted with it. Though such an attitude is understandable, those of us who attempt to practice dermatology have, on many occasions, tried to calm and reassure the father of an adolescent child with a "crop of pimples," who is in no mood to be satisfied with platitudes, placeboes, or such cliches as "he will outgrow it." This is as it should be. It seems to me that any adolescent or parent who consults his doctor in regard to acne deserves conscientious medical advice—it is poor enough at best. I can think of nothing more depressing to the impressionable and distraught young patient with acne than to be brushed aside, with a manifest lack of interest, as having an inconsequential disease unworthy of medical attention and unresponsive to any therapy except time. At such an age time is a sloth.

I am therefore in complete accord with Dr. McRae's emphasis on the necessity of treatment; the

type and vigor of this therapy must be determined by the character and severity of the case.

His concise description of the pathologic physiology of the disease presents the full picture of our present day knowledge. Whether it is truly complete only the future can tell. I agree that the many specialized methods of acne therapy such as endocrine, dietary, allergic, and so on, which Dr. McRae has designated as the "unit approach" have, when used alone and subjected to unbiased study, proved disappointing. Today we must employ every weapon at hand—each in itself inadequate and probably etiologically incorrect. With judicious balancing based on clinical experience, a reasonably happy outcome can usually be achieved.

Paralleling what Dr. McRae has said regarding the ineffectiveness of using one remedy alone, Dr. Frederick Becker has recently made a careful evaluation of a rather large number of cases of acne which were treated with (1) estrogen, (2) antibiotics, and (3) vitamin A. He concluded that none is a panacea, but that in certain types of cases each remedy may be helpful.

In 1939 Lynch made an extensive survey (J. A. M. A., November, 1939) of adolescent acne, employing approximately 3,000 cases in an effort to discover an "acne habitus." These cases were analyzed in regard to body form and weight, complexion, menstruation, metabolic rate, association with seborrhea, constipation, poor hygiene, and focal infections. He was unable to discover a relationship between acne and endocrine imbalance or any of the other factors studied, except possibly that patients with severe acne showed a significant elevation of the metabolic rate.

I am inclined to look hopefully to the discovery of a concise etiology of acne and hence of a specific remedy. Perhaps one should think more about the substances or conditions which produce acneform eruptions than about responses to various types of therapy in relation to a discovery of etiology. So far as I know there are but three things which are rather consistently associated with the appearance of such an eruption: (1) adolescence; (2) administration of excessive halogens, particularly iodine; and (3) protracted administration of corticotrophic hormones. It seems to me that the last offers considerable promise that future investigations into this hormonal approach may be rewarding. The presently expanding knowledge of an increasing number of steroids produced by the adrenal cortex may yet give us the fraction which is the specific "acne-producing hormone."

Recent Advances in Diagnosis. The busy practitioner has little time to perform most diagnostic tests, but he must know when to order them and how to interpret them. He must never be too busy to obtain a complete history and make a thorough physical examination, which together still constitute the most important phase of medical practice. He must not delay ordering carefully chosen special examinations and tests lest important time be lost in the diagnosis and treatment of serious diseases. Watchful waiting may be criminal procrastination. I realize that inertia or consideration of the economic aspect are often responsible for serious delays.—Wallace M. Yater, Recent Advances in Diagnosis, Med. Ann. District of Columbia 21:262 (May) 1952.

THE USE OF INTRAVENOUS PROCAINE HYDROCHLORIDE IN MEDICAL AND SURGICAL CONDITIONS

A. G. CRUMPLER, M.D.

FUQUAY SPRINGS

The intravenous infusion of procaine, while it has been primarily a hospital procedure, can be used safely by individual physicians in the management of certain types of casualties in an emergency and in many diseases, medical and surgical, as an office and home procedure. It is only necessary that the physician have a thorough knowledge of procaine and of its controlled administration.

The physiologic effects of procaine hydrochloride given intravenously are arc elevation of pain threshold, depression of nerve transmission, relief of smooth muscle spasm, and depression of myocardial hyperirritability arising during anesthesia. It is by the recognition and proper application of its properties that procaine hydrochloride given intravenously has become a therapeutic procedure with a broad range of usefulness in the relief of pain[1]. Pain, as we know, is a complex entity that may be made up of several components. The threshold of pain varies in individual patients, and for this reason no one analgesic is universal in application; we are always looking for new methods of preventing pain[2].

History

The use of procaine was introduced by Enhorn in 1904 to block painful impulses. For many years afterwards warnings about injecting procaine into the blood stream were given. In 1905 Enhorn synthesized procaine hydrochloride and introduced it as a less toxic substitute for cocaine. In 1909 Bier reported its use in surgery of the extremities. In 1931 a 2 per cent dilution of procaine was given intravenously below a tourniquet which was held for 35 minutes to keep the drug out of circulation. In 1940, at the Mayo clinic, procaine was used intravenously for the first time to promote general anesthesia in a case of pruritus. In 1943 Gordon, in Canada, used it for relief of pain in dressing painful burns. In 1945 Allen used it for the relief of pains in labor and delivery. In 1947 Delome reported use of the drug as a substitute for

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morphine sulphate. This is a brief history of the first users of the drug[3].

Pharmacology and Mode of Action

It has been shown that the barbiturates are most satisfactory antidotes for the toxic action of local analgesics. McIntyre demonstrated that sodium phenobarbital increases the tolerance for most local analgesics and prevents convulsions and hyperpyrexia. Procaine is only one fourth as toxic as cocaine. It is rapidly broken down in the plasma and liver into para-aminobenzoic acid and diethylaminoethanol. It disappears rapidly from the blood stream in human beings and is entirely gone 30 minutes after its injection. Massive doses given to animals fail to show any damage to the liver, spleen, heart, or kidneys. Liver function tests in animals and human beings fail to show deviation from normal. The beneficial results of procaine hydrochloride are thought to be due to hydrolysis of the drug by the alkaline tissue fluids, producing an alkaloid base which, in turn, is taken up by the lipoid of the nerve tissue, depression being the effect on the nerve ending.

Procaine circulating in low concentration produces local analgesia in regions of pain, injury, edema, or inflammation, but not in normal tissue. The increased permeability of the capillaries allows the drug to diffuse into the tissues and anesthetize the nerve endings. Weak dilutions produce no symptoms, but strong solutions cause central nervous system symptoms of dizziness, the feeling of being far away, or convulsions which promptly subside when the infusion is stopped[3].

Dosage and Method of Treatment

Until recently solutions of procaine hydrochloride had to be made up each time it was used, but it is now on the market in 0.1 and 0.2 per cent solutions, in 500 and 1,000 cc. sterile flasks. There is also available a sterile container (Venopax) with a screw-on cap and adjuster that makes the drug easy to use and convenient to carry. This outfit is inexpensive and is disposable. The plastic tubing is tipped to fit any needle.

Each and every patient is skin-tested for sensitivity by the injection of a 2 per cent solution of procaine or by the eye test, waiting 15 minutes for a reaction. Reactions are rare—I haven't seen one in 179 cases—but the test should always be done. It has been my policy always to have at hand a solution of Nembutal in case there should be a reaction, but so far I have not had to use it. If there is no skin reaction, 2 grains of sodium phenobarbital is given intramuscularly routinely, followed by a waiting period of 20 minutes.

The best dosage for the infusion of procaine is the "procaine unit," which is the amount that the body can detoxify in 20 minutes—4 mg. of procaine hydrochloride per kilogram of body weight. This precalculated dose is administered in 20 minutes. Thus an individual weighing 70 kilograms (154 lb.) would receive 280 mg. of procaine hydrochloride, or 280 cc. of the 0.1 per cent solution, in 20 minutes; or 14 cc. per minute for 20 minutes. The addition to the solution of vitamin C, 500 to 1000 mg., seems to improve the results. This would appear to be particularly true in the cases of arthritic patients, many of whom demonstrate a vitamin C deficiency[2].

It is well to know the following *signs of therapeutic concentrations*:

1. Cutaneous flush and sensation of warmth
2. Dryness of mouth
3. Excessive lacrimation and dilatation of the pupils
4. Acceleration of respiration
5. Absence of pain
6. Light-headedness
7. Euphoria, or a state of comfortable relaxation.

Progressive signs of toxicity

1. Minor inebriety, giddiness, vertigo and restlessness
2. Apprehension, mental confusion, slowness of thought
3. Thick or blurred speech
4. Sleepiness or momentary unconsciousness
5. Bradycardia
6. Fall in blood pressure
7. Pallor and sweating
8. Nausea and vomiting
9. Dyspnea
10. Generalized convulsions which may be transitory
11. Sudden failure of circulation and respiration.

These symptoms are not at all likely to become present if sodium phenobarbital 2 grains, is given 30 minutes before the infusion is started. Some doctors use procaine

without phenobarbital, but I do not. The best policy is to have Sodium Nembutal in a syringe ready for use, and any of the above symptoms can be stopped easily[2].

Should any signs of toxicity appear, the infusion should be slowed down or stopped for a few minutes and then continued; by this means the patient is kept out of danger. It has been found that every writer on the subject states that procaine is a safe, useful drug in a multitude of medical and surgical conditions, if it is used and understood correctly.

Clinical Uses

The criteria for evaluating the results of procaine are relief of pain, restoration of function, and objective signs of improvement. Allen[4] has stated that he has been looking for some pain condition that will not respond to intravenous procaine.

Surgery

Procaine used in conjunction with cyclopropane anesthesia has many advantages, especially when there is no need of a great deal of muscular relaxation[1].

Procaine is useful following both abdominal and chest operations, giving relaxation and some pain relief. There is no change in blood pressure, respiration, or cough reflex. Nausea and vomiting are greatly reduced[3]. Poole reported 5,869 abdominal operations in which procaine was used before, during and after surgery, and found a lower incidence of pulmonary complications as the result of the patient's ability to move more and his greater willingness to cough. Poole stated that abdominal operations lower the vital capacity, and that the fear of pain on coughing or deep breathing gives rise to more chest complications. The use of procaine increases the patient's vital capacity, reduces pain and facilitates breathing and coughing. Following the infusion, pain relief lasts as long as six to eight hours, and complications are lowered from 40 to 60 per cent[5].

The margin of safety is great if used with other depressants of the central nervous system, especially Sodium Pentothal. Frazier and Kraft reported 1,500 cases without a mishap.

Procaine has been used to decrease the incidence of cardiac arrhythmias developing during surgery, Burnestine reporting 500 operations on poor risk patients, with no arrhythmias developing[1].

In cases where ventricular fibrillation develops during general anesthesia, the infusion of 100 mg. of procaine given slowly will bring relief. Brown gives procaine routinely as a prophylactic measure against cardiac disturbances during surgery[5].

Brown has stated that the ease and simplicity of use, freedom from undesirable side effects, and prolonged analgesia make procaine a drug of choice in the repair of lacerations in plastic surgery.

Obstetrics

The use of this drug in obstetrics is not to replace other tried and true methods, such as caudal, spinal, and general anesthesia. These methods, however, require skill and facilities which are available to only a few fortunate women. Johnson and Gilbert of New York report 32 cases in which procaine was used with no fatality or accident[6]. Frazier and Kraft used a combination of procaine and Pentothal in a group of 25 obstetric patients ranging in age from 18 to 36 years, and from primiparas to mothers of eight children. They report that the patients were relaxed, sleepy, and dozing most of the time, feeling but not minding the contractions. Labor progressed more rapidly, and patients could bear down and cooperated readily[7].

The theory still holds that since labor begins in edematous or congested tissues, and with increased capillary permeability, procaine affects the sensory nerves more than it does the motor, and relieves pain enough to make labor bearable.

Skin and allergic conditions

Through its ability to relieve itching, procaine contributes to the cure of skin disorders by preventing spread. This is especially true in contact and exfoliative dermatitis. The drug is most helpful in the treatment of pruritus of jaundice. It is also effective in the urticarias associated with transfusion, and is used routinely in transfusions by some, especially in patients giving a history of reaction. The pain of herpes zoster is dramatically relieved, especially that about the head and neck[8]. Atrophic ulcers and ulcers of the legs heal more readily. The healing time of frost bite and trench foot is cut in half, especially if procaine is used in the early stages[9].

In the treatment of serum sickness and other allergic conditions, it is thought that relief is due to the possible split reaction on

the cells, causing a release of proteins and a histamine-like substance. State and Wangensteen report 27 cases of serum sickness from bovine albumin solution, anaphylactoid reaction, serum sickness from anti-tetanus serum, and other unknown urticaria reactions. All patients responded well after receiving the drug daily over a period of one to two days[10].

Bronchial asthma is relieved in 75 per cent of the cases and is especially useful in those that other drugs have failed to relieve. Improvement is possibly effected by the reduction of the sensibility of vegetative nerve endings and the relief of bronchospasm[9]. Where there is relief of asthmatic symptoms, it is dramatic and may possibly last for weeks and months.

Penicillin reactions are becoming more and more frequent. The manifestations of serum sickness, like the reaction of arthralgia — fever, rash, and even break-down of the skin and mucous membranes — are relieved and controlled by procaine within a few hours[11].

Kidney dysfunction

Anuria caused by sulfathiazole and like drugs is dramatically relieved by procaine[12]. Wilets and Beer[13] report the relief of 2 cases of lower nephron nephrosis by releasing the renal vasomotor nerves causing the ischemia and therefore allowing urine to pass. Patients having an infusion of procaine always comment on having passed a great deal of urine. Patients with cardiovascular renal disease benefit from the diuretic effect of the drug.

Carbon monoxide poisoning— acute and chronic

Aymes and Ray[14] report rapid improvement in 20 cases treated with procaine hydrochloride intravenously after failure to improve spontaneously within a reasonable length of time. Six patients treated long after exposure or severe complications failed to recover. All these patients were given 500 mg. of procaine in 500 cc. of dextrose.

Arthritis and rheumatic pains

Arthritis and rheumatic disorders are second on the list of most commonly disabling afflictions. Not only does arthritis produce economic hardship by reason of its disabling characteristics, but the multitude of unsatisfactory therapies with which the physician attempts to treat this condition often results in a feeling of helplessness, and even hopelessness, on the part of the patient. Since to the patient motility and relief of pain and spasm are of prime importance, the choice of agent and method of treatment which will relieve pain is one of the first steps in the management of arthritis. By no means is intravenous procaine a cure-all for the disease, but it does deserve further study for use in relieving the pain and spasm of arthritic patients.

Graubard and Peterson[15] reported 1894 infusions in 250 patients, with no mortality. They reported an 80 per cent increase in motility and relief of pain from one week to three months, the average number of infusions being nine, at intervals of daily to twice weekly.

I would like to point out here that large doses of ascorbic acid should be combined in the solution. The reason that procaine relieves pain is probably due to secondary changes within the peri-articular structure and capsule. The dysfunctioning capillary leads to local edema, hypoxia and hydrogen ion changes, causing metabolites to accumulate in the tissues, with resulting pain. It is my belief that procaine reaches the dysfunctioning capillary unit, and, by anesthetizing the irritated nerve-ending, breaks the reflex arc pattern and restores normal circulation. Green and others[16] reported 56 cases of osteoarthritis and acute rheumatoid arthritis, giving 220 infusions, with an average dosage of three to four infusions. They also reported 1 case of chronic brucellosis with continuous back pain that was completely relieved by three infusions.

Miscellaneous uses

Other conditions will be mentioned briefly.

Intravenous procaine is concentrated from seven to eight times more in traumatized tissue than in normal tissue.

Fractures: Procaine given intravenously before and after reduction relieves immediately the burning, throbbing pain at the site of the fracture. The edema leaves in 48 hours, especially in Pott's and Colles' fractures.

Sprains: Symptoms are relieved and motility is restored easily with one infusion.

Traumatic arthritis responds well to 2 treatments a week for three weeks, in conjunction with large doses of ascorbic acid.

Low back pain, or so-called sacroiliac strain, is relieved dramatically; relief may last only 48 hours, but the pain is not nearly

as severe on return. Three to four treatments may be necessary.

Herniated intervertebral disc: The drug fails to relieve pain but aids in the differential diagnosis.

Phantom pain: Relieves pain usually overnight. I give two treatments a week for six weeks.

Thromboangiitis obliterans: Relief lasts only four to six hours.

Arteriosclerotic and diabetic gangrene: Relief of pain is good before and after surgery[17].

Cerebral hemorrhage: Graubard and Peterson[17] report 1 case in which coordination of mouth, lips, and extremities showed permanent improvement. This has possibilities for further investigation.

Arterial spasm associated with embolus is markedly improved. Lerich uses procaine routinely in this condition.

Thrombophlebitis: Pain is relieved for a few hours and is greatly reduced on return.

Subdeltoid bursitis responds well to six to eight treatments. Pain is reduced and motility increased.

Tuberculosis and carcinoma of the spine: Pain is relieved only a few hours[17].

Pruritus of Hodgkin's; Multiple and amytrophic lateral sclerosis: Procaine is of no value at all.

Poliomyelitis: Spasm of muscles is relieved in the early stages.

Cerebral palsy: Daily use for three weeks in conjunction with physical therapy produces marked relaxation, increased coordination and motility, improvement of speech, and mental acuity[17].

Summary

1. Procaine hydrochloride given intravenously in low concentrations does not produce local anesthesia in normal tissue, but does relieve pain in regions of injury, pain, inflammation, or edema.

2. It is a nontoxic drug, with no unpleasant after effects; it prevents nausea and vomiting after anesthesia, and reduces the incidence of cardiac irregularities during anesthesia in good and poor surgical risk patients.

3. It relieves pain in a wide variety of conditions.

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Discussion

Dr. Frederick D. Austin, Jr. (Charlotte): One must know something about the patient as a person before one can treat any condition satisfactorily—and this is particularly true of pain. Certain persons do not wish to be relieved of pain.

I have used intravenous procaine hydrochloride, preceded by intramuscular sodium phenobarbital, primarily in those patients who seek relief from pain in arthritides, bursitides, low back pain, and torticollis, and relief from discomfort in the bizarre allergic manifestations of the skin which one encounters with increasing frequency in modern practice. Dr. Crumpler has discussed many indications for the use of this combination of sedation and analgesia. I should like to offer a few supplementary remarks to his dissertation.

General use:

The report by Delome, in 1947, gave the profession new hope in the control of pain and dysfunction in many chronic conditions, without having to resort to opiates, the use of which invariably leads to an even more disheartening problem—narcotic addiction. In the *Journal of the American Medical Association* for December 29, 1951, under Reports of the Council on Pharmacy and Chemistry, Keats, D'Alessandro, and Beecher, of the Anesthesia Laboratory of the Harvard Medical School at the Massachusetts General Hospital, presented an article entitled "A Controlled Study of Pain Relief by Intravenous Procaine," in which they endeavored to show, by comparison with a placebo (normal saline) and a so-called standard therapeutic agent (morphine), that intravenous procaine has no place in the treatment of

pain. They stated that they knew of no observer who had treated a comparable group of patients, either with a placebo or a standard therapeutic agent. I should like to refer them to a report by Coonrad and Baker which was published in **Southern Medicine and Surgery** in June, 1950, in which such a control series (using normal saline) was presented, and in which the authors concluded that intravenous procaine is of clinical value in relieving pain. This was based on observation of 447 infusions of procaine in 245 patients. By contrast, the report by the Boston group was based on observations on only 53 patients (all postoperative).

It is my opinion that this report is of little clinical value for the following reasons:

1. No mention was made of testing patients for sensitivity to procaine prior to its intravenous administration.
2. Sodium phenobarbital was not given prior to infusion of procaine.
3. The very drug (morphine) which we have so diligently attempted to avoid in the treatment of longstanding cases of pain, discomfort, and dysfunction, was used as a control—thus throwing us back at least five years in the scientific evaluation of procaine hydrochloride.
4. Too few patients were included in the study to enable one to arrive at any definite conclusion.

For the past five years many investigators have re-emphasized the fact that in approaching a patient with pain, discomfort, or dysfunction, with the hope of offering relief and of insuring the utmost in safety, in the intravenous use of procaine, the following precautions should always be taken: (1) test the patient for sensitivity to procaine; and (2) administer sodium phenobarbital prior to starting the intravenous infusion. The recent report of Keats, D'Alessandro, and Beecher ignored these vital prerequisites. The casual reader could be easily misled by such an article.

Traumatic surgery: Gordon reports a typical case of edema and cyanosis in the hand and arm, bulging about the edges of a plaster cast, which had been applied following extensive surgery on the forearm. Procaine was given intravenously and completed in 20 minutes. Within 10 minutes after completion of the infusion, the edema of the hand and arm had regressed to the point where it was possible to insert a finger under the edge of the plaster.

Rhinoplastic surgery: Lewy reports that the secondary swelling, incident to the trauma of surgery, can be largely prevented in a sizeable percentage of cases in nasal reconstructive surgery.

Arrhythmias: Auricular flutter and fibrillation do not respond to procaine therapy.

Obstetrics: The work of Doud revealed that procaine did not cross the placental barrier, so that all infants cried immediately after delivery.

Kidney dysfunction: Dr. Crumpler mentioned anuria caused by sulfathiozole and like drugs. Gross and Irvin have reported a case of "lower nephron nephrosis" due to sulfadiazine sensitivity. Recovery occurred following the onset of diuresis on the tenth day of anuria. Brin and Mintz also reported a similar case of sulfadiazine anuria with excellent results following the use of intravenous procaine.

Acute porphyria: Grubschmidt reported a case of acute porphyria, the mortality rate of which is reported as varying between 50 and 90 per cent, with approximately 80 per cent dying within 5 years. This patient improved dramatically with intravenous administration of procaine during three separate exacerbations.

A PSYCHIATRIC AND PSYCHOLOGIC EVALUATION OF SIXTY-FOUR YOUTHFUL OFFENDERS

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BUTNER
and
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DURHAM

The commonly accepted aims of criminal law in inflicting punishment are varied, but may be listed briefly as follows:

1. Retributive expiation
2. Deterrence
3. Prevention of recidivism through fear
4. Correction or reformation[1].

The latter aim is commonly assumed to represent the modern attitude of Law. However, it is clear that our present-day penal procedure has failed to reduce the incidence of recidivism. Even our enlightened parole system has failed in this task of prevention. A plea for change in penal procedure has been heeded in only a few instances.

A beginning step in this change is the plea of modern criminologists that youthful offenders be separated from habitual criminals. As Glueck and Glueck have pointed out, "It is a challenging fact that the opinions, standards and activities of fellow prisoners frequently exert a much greater influence upon the future behavior of offenders than do the blandishments of judges or the efforts of wardens, probation and parole officers."[2] A second step would be to direct correctional efforts toward the development of new attitudes and the prevention of fixed anti-social attitudes in a group of young offenders.

The Butner Youth Center

The authorities of the State Prison System decided to accept for the Butner Youth Center criminals not yet inured to prison influences and youthful enough in crime to make possible the establishment of new attitudes. Following the opening of the Center in 1949, it was thought advisable to attempt to ascertain what type of offender would be selected for the program set up at the Youth Center, what his intelligence would be, and also what his future career would be

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Read before the Section on Neurology and Psychiatry, Medical Society of North Carolina, Pinehurst, May 6, 1952.

after having been subjected to a rehabilitation program which was completely different from the usual penal procedure.

The Butner Youth Center was established by an act of the North Carolina State Legislature on March 14, 1949, by agreement with the State Hospitals Board of Control and the Prison Division of the State Highway and Public Works Commission. The purpose of the Youth Center was to separate youthful offenders from habitual criminals and to subject these young men to a well integrated, well planned rehabilitation program in the hope that there would be a marked reduction in recidivism following imprisonment.

Youthful offenders sentenced to the State Highway System are sent to one of two road camps designated to receive such prisoners. One of these is located at Albermarle, the other at Gatesville. From these camps, prisoners are selected for transfer to the Youth Center. Selection is made on the basis of three factors:

1. That the prisoner be honor grade (prison reliability, good work record, no disciplinary infringements).

2. That he be recommended for transfer by the superintendent of the road camp.

3. That his interview with the Superintendent of the Youth Center indicate:

   a. An earnest desire for rehabilitation
   b. Sincerity of motivation
   c. Good plans for the future.

The Butner Youth Center is located on the grounds of the Butner State Hospital and is set up in the pattern of a boy's military school rather than a prison. The staff of the Center consists of a superintendent, who has had long experience in juvenile delinquency, and seven counselors, all of whom are college-trained in either sociology or psychology. Two of these men have had graduate training in these fields. Medical and psychiatric care is supplied by the staff of the State Hospital. Vocational training is supplied by the Farm and Maintenance Staff of the hospital. Recreational activity is supervised by the staff of the Youth Center.

The first 30 prisoners were received into the unit on October 3, 1949. After one year, a capacity of 60 was reached. One year later—or two years after the opening—there were 100 prisoners. To date, the unit has received 280 prisoners.

Method

The first 65 prisoners received at the Butner Youth Center were selected for this survey. All prisoners were examined in the 14 months between October, 1949, and December, 1950. A routine examination which included the following procedures was adhered to:

1. The prisoner was interviewed by a psychiatrist, at which time statistical data were obtained and checked against his prison classification folder. At the same time, a complete history was obtained and a mental examination which included an estimation of the prisoner's intelligence was done.

2. Psychometric examinations consisting of the Otis Self-Administering Group Test and/or the Stanford-Binet or Wechsler-Bellevue Intelligence Tests were given to 54 of the 65 prisoners.

3. If the information obtained in the history from the prisoner was not considered reliable, or if more detailed information was necessary, this was obtained from the local Welfare Department.

4. An evaluation of the work record of the prisoner while in the Center was made at the completion of this study.

5. If the prisoner had been released during the study, his outside work and behavior were evaluated and recorded.

Results (65 Cases)

Age

The average age of the group surveyed was 20.4 years, with an age range of 16 to 26. Ten of the prisoners were 18 years or less. Forty-one were in the age range 19 to 21. Fourteen were 22 years or over.

Previous criminal record

Fifteen of 65 prisoners admitted to the Center, or 23 per cent, had previous records of arrest ranging from truancy, traffic violations, and suspicion to breaking, entering, and larceny. Five of these 15 prisoners had records of only one arrest; 2 had records of two arrests; 4, three arrests; 2, four arrests, and 2 had records of five or more arrests.

Crimes committed

A total of 15 various crimes had been committed by the prisoners, for which they were sentenced. These ranged from 26 instances of breaking, entering, and larceny to one instance of first degree murder.

Military service

Twenty-nine, or 46 per cent of the 62 prisoners on whom data are available, had pre-

vious military service. Of these, 3 had been in more than one branch of the services. Eight (27 per cent) had appeared before military courts martial. Of these 8, 5, or 17 per cent of the 29, had received undesirable or dishonorable discharges from the military service.

Economic status

The economic status of the prisoners' home environment was evaluated according to the following criteria:

1. Well-to-do. Family income of $8,000 a year or over.

2. Moderately well-to-do. Family income of $500 a year for each member of the household.

3. Marginal. Family income of less than $500 a year per member, but no public aid.

4. Dependent. All or part of income derived from public assistance.

Information available on 64 of the group revealed that 3 prisoners were from well-to-do families; 26 were from families with moderate income; 30 were from families with marginal income, and only 5 were from families which were wholly or in part dependent on public assistance.

Intelligence

An adequate study of intelligence was possible on 54 of the 65 prisoners. The results of testing showed that 12, or 22 per cent, had intelligence quotients of less than 80; 12, or 22 per cent, 80 to 90; 18, or 34 per cent, had average intelligence (90 to 110); 10, or 20 per cent, had superior intelligence (110 or above); only 2, or 3 per cent, had intelligence quotients in the markedly retarded or defective range. In summary, 26 (46 per cent) of the prisoners had below average intelligence, and 28, or 54 per cent, had average or superior intelligence.

Education and intelligence

Since a rather high percentage (46 per cent) of the men tested had intelligence quotients of less than 90, it was felt that an attempt should be made to correlate intelligence with educational achievement. The result of this analysis is shown in figure 1. It is interesting to note that the majority of the prisoners with an I.Q. of less than 80 had dropped out of school by the sixth grade. Those with I.Q.'s of 80 to 90 were scattered fairly uniformly within the grade range sixth to ninth. It was found that the majority

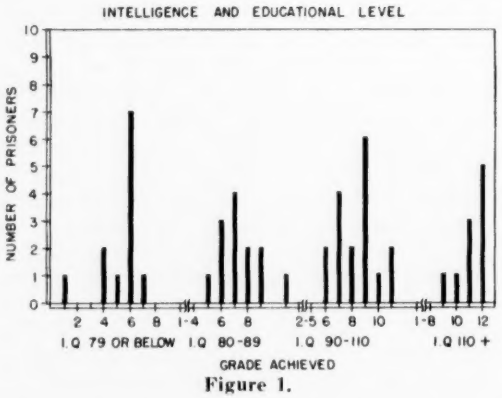

Figure 1.

of the group with average intelligence went only to the ninth grade in school. Only 3 of the 18 went further. One non-reader went only to the first grade. Of the 10 prisoners with superior intelligence, 5 reached the twelfth grade or graduated from high school. Three went to the eleventh grade, and 2 achieved only ninth and tenth grade educations.

Work record and intelligence

The majority of jobs to which prisoners were assigned in the Center do not require superior intelligence. The most complicated are those of maintenance electrician and carpenter; simplest is that of common laborer. It can be assumed, therefore, that the prisoner's work record would reflect his work habits rather than his intelligence. Most of the prisoners were rotated through virtually all sections of the Hospital Maintenance Division, and their work records were consequently evaluated by several supervisors.

For the purpose of this analysis, the prisoners were divided into two groups: those with normal or superior intelligence, and those with below normal intelligence. Prisoners' work records were evaluated as excellent, good, fair, or poor. As can be seen in table 1, prisoners with normal or superior intelligence tend to make good or excellent workers, whereas the prisoners with below normal intelligence are more likely to be good or fair workers. The proportion of poor workers in each group is, for all practical purposes, equal. It would seem to be true that, although the assigned work was not graduated in skill or difficulty, nevertheless the more intelligent members of the group had the best work records.

Table 1
Correlation of Intelligence and Work Record (54 prisoners)

Intelligence Quotient	Work Record				
	Excellent	*Good*	*Fair*	*Poor*	*Total*
90 or above	5	19	1	3	28
89 or below	1	16	7	2	26

Diagnosis

The diagnostic classification of criminals is difficult. To throw all offenders into the wastebasket of "psychopathic personality" is unfair. It is felt that the classification used here, though over-simplified, suits the purpose of this study. Smith[3] has suggested the division of defective delinquents into two groups: (1) defective chance offenders; and (2) defective psychopaths. It was felt that this differentiation was applicable to normal as well as defective persons, and a system of classification was drawn up consisting of five groups, as illustrated in table 2.

Table 2
Diagnostic Classification

Diagnosis	No.
Below normal intelligence; chance offender	18
Normal intelligence; chance offender	19
Below normal intelligence; psychopathic personality	13
Normal intelligence; psychopathic personality	10
Psychotic or severe personality disturbance	4
Not examined	1
	65

The fifth group of patients with marked personality disturbance was added because of the need in two cases to establish the relationship of the personality disturbance to the crime committed. The diagnosis of psychopathic personality was based on obtaining positive information concerning the following:

1. Previous record of several arrests
2. Excessive use of alcohol or drugs
3. Poor military and pre-arrest work records
4. Evidence of lack of sincerity, lying, and lack of guilt concerning crimes
5. Supervisors' observations as to lack of reliability and poor work record in the Center
6. Clinical judgment of the psychiatrist.

Psychiatric disturbances in the prisoners in group five (4 cases) consisted of the following:

1. *Paranoid personality* (1 case). This prisoner, whose crime was assault with a deadly weapon, showed marked projection of all of his difficulties in life upon persons in his environment, with outbursts of rage when involved in arguments over trivial matters.

2. *Schizoid personality* (2 cases). These patients showed seclusiveness and day-dreaming, with occasional autistic thinking. One (crime: breaking, entering and larceny, and assault with a deadly weapon) had shown acute psychotic symptoms consisting of hallucinations and delusions of persecution and grandeur which had cleared and left the patient mildly apathetic and seclusive. The other prisoner (this prisoner was a chance offender who had committed involuntary manslaughter) entertained near psychotic religious ideas.

3. *Manic-depressive psychosis* (1 case). This prisoner, convicted on a charge of murder at the age of 16, had apparently had a manic-depressive psychosis prior to committing the crime for which he was convicted. Following his rejection by a sweetheart, he had shot her and then attempted to commit suicide. At the time of examination three years later, the prisoner was still showing severe depressive episodes alternating with hypomanic outbursts. These subsequently cleared one year after being in the Youth Center. It is interesting to note that this boy was not examined prior to his trial, and it was not until he was placed in Central Prison that his severe mental illness was recognized.

Table 3
Later Records

	No.
Returned to prison	6
Discharged or paroled	51
Back in prison	2
Remained in prison	4
Escaped	2
	65

Later record

Two and one-half years after the institution of this study, only 4 of the original group of 65 prisoners remained in the Center. This fact afforded a chance to make observations as to the efficacy of such a program. Although it is realized that the follow-up has been short, the results as summarized in table 3, nevertheless, are quite significant. Two of the 53 prisoners who have been discharged or paroled are back in prison. One of these had his parole revoked for drunkenness. The other is now in a federal penitentiary for automobile theft. Seventy per cent

of the 51 prisoners who remain out of prison have now been out over one year. Of the entire group, 9 have been out two years or more, 10 from 18 to 24 months, 17 from 12 to 18 months, 8 from 6 to 12 months, and 7 less than 6 months.

Comment

Previous investigations have shown that the age of first delinquency is of great significance in attempting to forecast the future career of young offenders. It has been observed statistically that of the offenders who commit their first legal act of delinquency (legal arrest) after 17 years of age, approximately 66 per cent will not commit another crime leading to imprisonment[4]. It should, therefore, be expected that the majority of the group selected for this program (50 prisoners) would not be law-breakers even without any special rehabilitation.

The type of crimes committed by our group does not differ in any important manner from the general group of punishable crimes (mainly property crimes).

If marginal economic circumstances play a significant role in youthful delinquency, our study supports Glueck's findings[5]. His group of 500 delinquents showed three-fourths of the cases in the marginal group and ours about one-half.

Previous studies[6] have shown that the general intelligence of the criminal population is, as a rule, lower than that of the general population. The fact that 47 per cent of the men surveyed in this series had below average intelligence may be an indictment, to some extent, of our educational system. There is practically no vocational training in this state and no planned training for the slow-witted except forced intellectual learning. It is quite possible that had some of these prisoners been educated according to their abilities and had they been taught good work habits in vocational schools (below seventh grade level), many of them would not have been involved in the difficulties for which they were sentenced. It would seem almost self-evident that young boys can be trained in good work habits and satisfaction in school work only if the work is scaled to ability.

The low general intelligence of the group is also reflected in the correlation of education and psychometrically measured intelligence. The majority of those prisoners with subnormal intelligence quit school at the age of 13 to 15, having achieved an educational level no higher than their intelligence level. When placed in an environment where the demands on intelligence were not beyond their capacity, most of these prisoners achieved a good or fair work rating. After discharge from prison, the majority were able to obtain and keep jobs which were matched fairly closely to their ability (truck driver, electrician's helper, baker's assistant, cotton mill worker, and the like).

The diagnostic classification of many of the prisoners was made difficult by the lack of information regarding the prisoner's past history as well as of complete psychologic testing. Information from public welfare departments is usually only as reliable as the quality of the local office. There is great variation in the thoroughness of county welfare departments, especially where the departments are understaffed and poorly financed.

Adequate diagnostic personality evaluation could not be carried out because of the shortage of personnel. To survey adequately the admissions to the Center would have required the half-time services of one psychologist. This service was not available and only the simplest of procedures could be done as adjuncts to the general examination. This further limited the diagnostic tools available.

The period of follow-up has been short but shows significant trends. In Glueck's[4] study of those prisoners whose first delinquency occurred after the age of 17, 66 per cent of these were influenced by imprisonment. It would seem highly significant, therefore, that the majority of the group selected for this program represents a combination of the two most favorable groups—first offenders over 17 years of age.

In Glueck's entire group of 500 offenders, those who were to commit further offenses did so at the rate of approximately one every 24 months during a five-year period after their discharge from prison[7], with extremes from one episode to one crime every six months during the five-year period. Although the trend toward the lower incidence in recidivism in the group studied here, in spite of the short follow-up, may be reversed by future observation, it remains, however, an important observation that only 3 per cent of the prisoners have thus far committed an offense since their release from the Youth Center.

Summary and Conclusions

The observations made here may be summarized as follows: The average age of the prisoners selected for the Center was 20.4 years. The majority (75 per cent) are first offenders. The general intelligence of this group of youthful offenders corresponds closely with that observed by others, and tends to show a high incidence of subnormal intelligence. The military records of the prisoners are, as a rule, poorer than those of the average population. School achievement and work ability correlate well with general intelligence, and indicate poorer work habits in the group with lower intelligence. Thirty-seven per cent of the prisoners interviewed were diagnosed as psychopathic personalities. A trend toward the lower incidence of recidivism is observed in this group of prisoners, and may reflect a development of more mature social attitudes and better work habits as a result of the specialized program to which the prisoners were subjected.

The success of this program cannot be properly evaluated as yet. Because this group represents statistically the most favorable type of prisoner, regardless of the correctional procedure used, only a control study would properly evaluate the efficacy of this program.

This study pretends to less than completeness because of the limitation of time and personnel. It is reported as a pilot study, with the hope that the state may see fit to conduct a more thorough study including a control group. If the trend noted in favor of rehabilitation proves reliable, then the control of recidivism may be in sight, provided early diagnosis (favorable cases) and treatment is instituted.

The authors wish to express their gratitude to Dr. James Murdoch and Dr. James Cathell for their assistance in examining several prisoners in this series, and to Mr. James Waite, whose cooperation in evaluating prisoners' work records was invaluable.

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Discussion

Dr. James Murdoch (Butner): I would like to congratulate Dr. Wilson on the excellence of his paper. When one considers that he had little time indeed to see these boys at the youth center, one realizes what a portion of work he has had to put in to do what he has done.

Although I am not conversant with the American literature on delinquency, the British figures given in Burt's book, published in 1928, bear out what Dr. Wilson has found in this study.

Burt, in drawing his final conclusions, divided the delinquents into two groups: In the first group, those who refused to accept any help or any treatment whatsoever, 12 per cent were regarded as cured, 23 per cent as improved. These results are poor indeed. Opposed to that, in the second group, where help was accepted, 62 per cent were cured or apparently cured, and 36 per cent were improved, leaving only 2 per cent untouched.

These are about the same percentages that Dr. Wilson has given you in this pilot study that he has made with the group at Butner.

Burt also stressed the multiplicity of factors involved in delinquency. Because there is no simple cause for delinquency, there is bound to be great difficulty in the treatment of the delinquent. In other words, one must use every approach possible to effect good results.

Dr. Wilson's study shows us, as he himself states, the need for further study in this state to see what can be done. I think that a study should be made of those cases that never reach the Butner Center, or any other rehabilitation center except prison, to find out what good results, if any, are achieved.

Of course, the Butner experience study requires a much longer period of time before we can secure final, more conclusive figures. We require a much larger staff in order to do for these delinquent youths what we would like to do. We don't have the psychiatric staff, the psychologic staff, or help of any kind to give more than casual treatment.

From the point of view of psychiatry, the Medical Society of North Carolina could do much to educate the legislators to the need of a more adequate program.

Learning how to handle patients is one of the primary requisites of an adequate physician. Primarily a physician is not a salesman, but just like a salesman he must understand and be capable in his handling of people. This is often a rather upsetting idea, and often a threatening one, to the young scientist just going into practice. He is eager to have the world beat a path to his door, begging for the accurate, scientific application of the cool, healing hand. Often he has come to scorn the methods of the older practitioner with his bedside manner. He vows his practice will include no mis-spent time with what he calls "crocks" and neurotics, healthy or otherwise. If he is in a specialty which is in great demand or in an area without competition he may complacently and profitably go along high-handedly spreading pearls, but should he be competing against others who have a more mature and helpful understanding of people, he will soon either learn, starve or leave. Knowing how to handle people is not only an essential of good medicine, it is often an economic necessity.—Ebaugh, F. G.: Applied Psychiatry in General Practice, Canad. M.A.J. 67:613 (Dec.) 1952

TREATMENT OF TRAUMATIC PARAPLEGIA

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The pessimism associated with the care of paraplegic patients in the minds of the lay public and physicians has been so general that it is difficult to overcome. Nevertheless, during recent years there have been so many developments in the care of these patients that many of them can be rehabilitated to a state of almost complete independence. It is, therefore, an opportune time for physicians and the public to become aware of possibilities available for such individuals, so that as soon as a patient becomes paraplegic, his efforts can be guided and directed towards complete rehabilitation. On the physician falls the responsibility for minimizing the initial damage that has occurred from trauma and for maintaining the patient in as satisfactory a condition as possible until definitive therapy can be carried out and rehabilitation begun. The armed services and the Veterans Administration have been made acutely aware of the intricacies of this problem and have contributed significantly to its solution. Paraplegia is not solely a wartime problem, and physicians and surgeons throughout the country should realize the possibilities now open to paraplegics in peacetime and the responsibilities that rest on the physicians themselves.

Significant advances in medicine open a wealth of new problems for solution in every field. This is particularly true in the field of rehabilitation of the paraplegic and offers one of the most stimulating and healthy aspects of this program. After World War I only a handful of veterans with paraplegia survived. Since World War II, and in the civilian population during the last 10 to 20 years, a large number of such patients have lived useful lives for many years. The problems that have been presented, therefore, in the rehabilitation of these patients, plus the medical conditions that have arisen, have in many ways opened new fields to other specialties of medicine.

The patient need not be totally paralyzed from the neck down to be a paraplegic. The lesion may be complete or incomplete or occur at any level from the fourth cervical segment downward. In this regard paraplegia is somewhat like poliomyelitis. The less damage there is and the lower the level of paralysis, the more easily a patient can be equipped through rehabilitation to return to some degree of independence and resume his place in society.

Read before the Section on Neurology and Psychiatry, Medical Society of the State of North Carolina, Pinehurst, May 6, 1952.

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The Acute Stage

In the acute stage, it is obvious that patients should be handled as carefully as possible at the scene of the accident so as to avoid further damage to the spinal cord. Many individuals with injuries to the spinal column have been known to suffer subsequent injury to the spinal cord by rough handling after the accident. The patient should be kept in an extended position, never acutely flexed, and of course it is desirable to wait until an ambulance arrives before transferring the patient to a hospital. After he reaches the hospital, his care requires the cooperation of neurosurgeons, orthopedists, urologists, plastic surgeons, and many other related medical specialists.

Prevention of ulcers

We have found that such patients are most satisfactorily cared for on a Stryker or Foster type of turning frame, which facilitates nursing care and helps to prevent decubitus ulcers. There is little or no excuse for allowing patients to have bed sores in a well organized hospital. At best, the development of decubiti simply delays the patient's rehabilitation, and they can be serious enough to cause the patient's death if not adequately treated.

If a turning frame is not available for the prevention of bed sores, the patient should be turned carefully, at least every two hours, an effort being made not to twist one part of the body without turning the body as a whole. This is best done on a sponge rubber mattress with boards underneath to prevent the patient from slipping into the middle of the bed and allowing the sheets to become wrinkled. At this stage flannel blankets rather than ordinary sheets are used, since the flannel blankets can be drawn taut under the patient and wrinkles, the forerunner of decubitus ulcers of the skin, can be avoided. The application of plaster jackets to patients with paral-

ysis is contraindicated in the acute stage as in general it is contraindicated at any time.

Management of the bladder

Without delay a small catheter should be placed in the urethra of patients with paraplegia. The development of an automatic bladder in a paraplegic patient may require from 4 to 12 weeks, and not all patients eventually develop automatic bladder function. However, the prevention of infection is much more nearly possible in this day of adequate antibiotic and sulfonamide therapy, and one is able to prevent the formation of urinary tract stones in a higher percentage of cases. On this regimen, under the specialized care of the urologists, a large number of patients will achieve automatic emptying of the bladder so that later a majority will not require catheterization.

During the acute phase after the injury, many patients will show abdominal distention and, for this reason, small doses of Prostigmin administered subcutaneously with rectal tubes, and the restriction of fluids and food by mouth for 24 hours are helpful.

After the patient's general condition improves, it is frequently helpful to reduce fracture-dislocations of the spine and at the same time to explore the spinal cord through a hemilaminectomy. This will occasionally reveal spicules of bone or herniation of a nucleus pulposus, causing pressure against the cord. Removal of these will occasionally result in improvement of the patient. If there is gross instability of the back, fusion of the spine on the side opposite the hemilaminectomy is usually carried out at the same procedure.

Of great practical significance is the maintenance of nutrition. It has been found that patients with paraplegia, particularly those with high thoracic or cervical levels, show a great increase of nitrogen loss over intake, regardless of how much food is ingested during the early stages. At this stage the administration of 50 mg. of testosterone daily is sometimes helpful in minimizing the nitrogen loss.

The morale of the patients is of great importance. Some time after the injury, one must have a very frank discussion with the patient, explaining to him the fact that the paralysis will in all likelihood be permanent. His sights should be set at the right level so that he will adjust his mind to the rehabilitative aspect of his training.

Recovery

During the recovery phase one must make use of all returning function. Physiotherapy is of importance. Any bladder infection should be carefully investigated and cleared. Periodic investigation for urinary tract stones, which very frequently form when catheters are in place, should be made. Even after a year or more patients should be followed at three to six-month intervals with intravenous pyelograms. If during this stage decubitus ulcers have already developed, they can usually be closed by plastic procedures so that soon afterwards the patient can learn to wear braces and to ambulate.

The word "walk" for the paraplegic patients is probably a mistake, since it leads him to set his sights too high. He should realize that ambulation with braces is possible, but that it requires hard physical effort and is a more difficult way to get from one place to another than in a wheel chair. It is, nevertheless, of importance to the paraplegic patient, since it aids in maintaining the nutrition of the body and improves the function of the urinary tract.

Although severe flexion spasms of the legs will develop in certain cases, most patients can be rehabilitated in spite of this complication. Occasionally a patient will require anterior rhizotomy for such spasm and may be much improved by this procedure. The injection of absolute alcohol in the totally paraplegic patient has frequently resulted in the loss of spasm and a tremendous improvement in his condition. Many patients will have intractable pain, particularly those with lesions low in the cauda equina. Individuals with this type of difficulty can be relieved by upper thoracic or cervical cordotomy if necessary.

Rehabilitation

During the stage of rehabilitation the patient should be equipped with proper braces for ambulation and with a folding type of chair which can be put into an automobile. This wheel chair should be of the best type available, since the better chairs require relatively little maintenance and are much more easily operated by the patients. A few small details in this regard are of importance. A chair with large wheels in the back is more easily managed by the patient, and the small wheels in the front should be spoke wheels at

least 8 inches in diameter. These chairs should be equipped with brakes, to permit the paraplegic to rest on hills without fear of an accident.

It is almost impossible to rehabilitate some patients to the point of ambulation with braces. This group includes patients with high thoracic or cervical levels of paraplegia, and patients over 50 years of age, particularly those with coronary disease. The young, strong paraplegic patient, however, with the level below the midthoracic region can be expected to ambulate on braces, get about his own house, get in and out of bed, give himself enemas, and completely care for himself. Furthermore, with the aids available he can be taught to drive his own car and to get in and out of the car alone. He should learn to dress himself, put on his braces, get in his automobile, and drive without help.

Sexual function is lost in all completely paraplegic patients. Priapism is a common finding in paraplegia, but it is not associated with sexual desire; in fact, it has been found that patients with complete paraplegia lose all sexual desire. This distressing situation needs to be frankly faced by the patient, and the physician can be of great help to him at this time. The incomplete paraplegic may regain some degree of sexual desire and function, but it is impossible in the early stages to predict what this will be.

Conclusion

Fortunately, insurance companies and the Workman's Compensation Board are interested in this problem of rehabilitating paraplegics, not only from the point of view of the individual patient but from that of actually saving money. A paraplegic patient who can care for himself and, in fact, earn a living requires much less help from the insurance company than the patient who requires constant home nursing for 10 to 20 years. It is obvious that the best interests of the patient, the lay public, and the physician are all of importance in rehabilitating a patient with paraplegia. This process should be begun almost the moment the patient enters the hospital, and a sympathetic and understanding point of view should be taken by all those concerned.

Discussion

Dr. J. Leonard Goldner (Durham): As soon as the initial surgical or nonsurgical treatment of the patient with traumatic paraplegia has been completed, plans should be made for total rehabilitation. Position in bed, prevention of contractures, control of bladder infection, development of automatic bladder function, all require constant vigilance. Renal complications, pulmonary complication, and venus thrombi must be looked for and prevented if possible.

As soon as the immediate period of convalescence has been completed and the initial pain has subsided, the patient is started on physical exercise in bed, if the upper extremities are capable of functioning. Occupational therapy in the form of arts and crafts is begun. Psychologic adjustment must be made. The patient's existing situation is explained to him. He is not filled with pessimistic views of never being able to walk or move again, nor is he given optimistic opinions of being able to return to full activity. Gradual realization of his situation eventually occurs, and a blunt statement by the physician is cruel and unnecessary.

If the initial surgery in the form of decompression and spine fusion is carried out, and these can be done in conjunction, six or eight weeks are required for good healing. The patient can then sit in a wheel chair with the aid of a strong corset which controls the back and the abdominal muscles. The maximum support should be obtained with the minimum of apparatus. At this stage, the bladder is usually the main problem.

As soon as strength in the upper extremities has improved and the patient has learned to use his latissimus dorsi and remaining intact trunk muscles for elevation of the pelvis, he is equipped with the necessary strong, light braces to support the lower extremities. Much of the brace is made of aluminum. If there is flaccid paralysis, the pelvic band is not indicated. If there is spastic paralysis, the band is usually necessary. Re-education in walking is then started. First, crawling on the floor mat is begun, followed by standing and balancing with all the apparatus. Walking in the parallel bars comes next, and then crutches are used.

All patients do not have the same ability to ambulate. Walking for the patient who has a lesion at the level of the eleventh thoracic vertebra consists of standing and taking a few steps with difficulty. Only the exceptional patient is able to swing through and get along with crutches and braces with the lesion at this level.

A complete lesion above the eleventh thoracic vertebra usually requires wheel chair existence, because the abdominal musculature is weak. A complete lesion near the level of the third lumbar vertebrae allows good walking with braces and crutches, because the abdominal and trunk musculature is strong. A vertebral injury with incomplete involvement of the cauda equina in the lumbar region allows the patient to walk with one or two hand canes and possibly only one long or short brace, depending upon the distribution of the muscle weakness. Such a patient will walk readily and spend very little of his time in a wheel chair if he has the drive and desire to progress.

Reconstructive surgery on the lower extremities is indicated when the patient has incomplete muscle paralysis. Certain muscles can be transplanted to strengthen the foot and the knee. Bone operations on the foot will eliminate the necessity of a short brace. When the patient leaves the rehabilitation center, he must become re-adjusted in his own community, since it is this community that bears the major physical and financial support. The patient needs help in making psychologic, financial, sexual, and physical adjustments. He must be taught to see his shortcomings and be helped in developing a mature attitude towards his failings.

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"The prime object of the medical profession is to render service to humanity; reward or financial gain is a subordinate consideration. Whoever chooses this profession assumes the obligation to conduct himself in accord with its ideals."—Principles of Medical Ethics of the American Medical Association, Chapter 1, Section 1.

JANUARY, 1953

1953

Almost every individual experiences a certain amount of emotional turmoil when one year ends and another begins. Memories of the dying year come crowding in — some pleasant, some unpleasant. One who has mastered Osler's way of life and learned to live in "day-tight compartments" is better prepared to forget the unpleasant memories— or at least refrain from nourishing them with the tears of vain regret. He also knows better than to waste time in mentally patting himself on the back for achievements of the past year. The disciple of Osler will not be dismayed by the problems presented by the New Year. He will, of course, realize that these problems need solution and that he is duty bound to do his share toward solving them. He will accept the fact that they cannot all be solved at once, but one at a time, or a part of one at a time. Instead of letting the combined weight of all the difficulties ahead crush him, he will resolve to deal with them only as they arise.

There is a certain challenge that comes with the New Year: a challenge to forget the mistakes of the past and to make the best of the opportunities ahead. This challenge is presented to the nation and to individuals alike.

There is much to encourage us as a nation. In spite of difficulties ahead, there is some ground for hope that the Korean War may come to an end, and the menace of Communism be lessened. Except to those who are socialistically inclined, there is consolation in the thought that there will soon be a halt in our country's 20-year trend toward socialism. Much of the legislation enacted by the New Deal was constructive; but few unbiased observers will deny that it is high time for a halt and reversal of the trend toward the welfare state. The threat of the bureaucratic control of medical practice is less now than it has been for many years— although eternal vigilance must be maintained as the price of freedom from socialized medicine. Such vigilance consists in a continued effort to improve our standards of practice and to remember that the golden rule covers all that need be known of medical ethics.

May we as a nation, as members of one of the greatest professions in the world, and as individuals resolve that during the year ahead we will do our part to make the world a better place in which to live.

* * *

THE BEAM IN OUR EYE

One of the proudest claims of the medical profession is that it has been able to clean its own house. Every medical generation has provided enough fair-thinking, intellectually honest medical leaders to keep going the housecleaning that must be continuous if we are to maintain medicine's proud position among the professions. One example of such a leader is Dr. John T. T. Hundley of Lynchburg, immediate past president of the Medical Society of Virginia. His presidential address, "The Beam in Our Eye," was published in the *Virginia Medical Monthly* for

October. In this address Dr. Hundley called attention to the loss of confidence in the medical profession which has occurred in the last half-century, despite the greatest advances ever made in all phases of medical practice. Dr. Hundley concludes that "There is considerable justification" for the changed attitude of the public.

One reason for this change is "a world-wide suspicion and resentment of authority, however constituted . . . nothing is sacred; everything is subject to question." He points out that medicine is particularly vulnerable because "It is at some time required by everyone, but is administered by a very small group."

Dr. Hundley is quite correct in linking "the widely prevalent concept of the welfare state" with this changed attitude. Because the medical profession knows that control of the practice of medicine by government would lower our standards, we have been forced into a campaign of opposition. Unfortunately, the advocates of government insurance do not hesitate to interpret this opposition as being inspired by selfish motives instead of in the knowledge that our present system affords the best possible medical care.

Another factor pointed out by Dr. Hundley is that a small proportion of the medical profession are profiteers, and these comparatively few men "would counteract the skillful, conscientious, faithful and unselfish practice of the balance of the profession in that area."

Dr. Hundley summarizes "the sore spots within the medical profession which the public recognizes and resents" as follows:

"1. A failure to take a personal interest in the patient and his family.

"2. The development of a professional false pride.

"3. A tendency to place an excessive monetary valuation on the services rendered by the medical profession.

"4. An ofttimes selfish interpretation of the principles of medical ethics.

"5. Failure to accept as a professional responsibility the acquisition, and the maintenance of the skill and scientific capabilities of our members.

"6. The falure to professionally denounce and to discipline the chisellers, the black sheep, the dishonest members of our profession.

"7. Lip-service, rather than clear-cut, and definite acceptance of the ideal of the medical as a service profession."

Dr. Hundley then elaborates each of these points and concludes: "Ours is a great profession, which demands of each of us great accomplishments. Not the least of these demands is self-criticism, honest evaluation, and the courage to purge our profession of our faults and our weaknesses.

"As we clean our own house, as we correct our faults, we will regain, and we will deserve the confidence, the respect, and the loyalty that has been considerably lost in recent decades."

Any reader of this journal who is sufficiently interested can get a reprint of Dr. Hundley's address by writing him for a copy. It is well worth reading in its entirety.

* * *

POSTGRADUATE TRAINING AND GENERAL PRACTICE

In the November issue of *The Pharos*, a thoughtful and thought-provoking address by Dr. Cecil J. Watson, Professor of Medicine at the University of Minnesota Medical School, discusses some of the problems of training after graduation from the medical school. Dr. Watson recognizes that one of the most important considerations in the choice of internship is the type of practice the student is preparing for. Dr. Watson feels that a rotating internship is to be preferred as a preliminary to specialization. For the young graduate "who is headed for general practice and not in too much of a hurry" he advises a more intensive training in medicine, beginning with a year's straight service in medicine, including neurology, psychiatry and dermatology, and followed by "an additional year divided equally between pediatrics, obstetrics and gynecology, and accident ward training." Dr. Watson discourages the prospective general practitioner from planning to do elective surgery:

"It seems quite clear to me that with the number of well-trained surgeons now available over the length and breadth of the land, and with transportation what it now is, surgery should indeed be left to the surgeon who has had at the least a prolonged period of formal training. Is it not equally clear that the general practitioner should be first and foremost a physician with adequate time to devote to

the purely medical and especially the functional problems which are presented by such a large share of the patients who consult him? I am impressed by the fact that at least 50 per cent of the people seeking advice of the general practitioner have functional rather than organic diseases. But in this group *especially*, adequate time is essential for diagnosis and judicial handling. Everyone agrees, I am sure, that the physician in the community where the patient lives has the best chance to achieve something real if he can take the time. If a man is devoting a big share of his time to operating and post operative care, is it likely that he can give enough time to the functional problems, let alone the actual diseases that tax the physicians' skill and patience? I think of this whenever I hear of a busy general practitioner who sees 30 or 40 patients an afternoon and devotes the morning hours to surgery."

For several years there has been an increasing number of clinicians and medical educators who, along with Dr. Watson, "favor a reasonable period in general practice prior to specialty training," because "there is little question that this generally has a broadening and maturing influence, promoting self reliance and providing a sounder basis for selection of a specialty as well as a running start in profiting from specialty training. It usually provides greater financial stability, thus permitting a more deliberate and unhurried training period, even in the presence of family obligations. The specialist who has been in general practice is more likely to keep on thinking about the whole individual, rather than a small special area or field. In some parts of the world specialization has gone altogether too far, and indeed we are in real danger in this respect ourselves. It is very doubtful that the best interests of medicine are served when holders of the M.D. degree limit themselves to endoscopy, or hematology, or allergy, or pulmonary disease, etc., etc."

Dr. Watson takes note of the increasing popularity of group practice, but believes that the general practitioner has a big place in such organizations:

"An increasing number of clinics or groups are recognizing the advantage of having one or more family doctors or general practitioners (minus elective surgery) as regular members of the team. This strikes me as an excellent idea from a number of standpoints. For one thing it constitutes good public relations and increases the flow of work to the group, as many families greatly wish, and not without reason, to have a doctor who will give consideration to their ailments, in whatever province, and to see that any further special study or care is given that he may deem wise. This man in a sense serves as an admitting officer for the clinic, a function of no little importance.

"The general physician is also valuable in a group because he tends to keep it well knit. He serves, perhaps unwittingly, to achieve liaison between the other members who have more highly specialized interests. It might indeed be most satisfactory if groups were to have general practitioners at the core with specialists around the periphery."

It is perhaps more than a coincidence that about the time Dr. Watson's address was published, the December issue of *Medical Economics* published its latest survey of physicians' incomes for 1951. This survey shows that, whereas specialists once had a very much larger income than the general practitioner, the difference in the incomes of the two groups is now almost negligible. Truly, there is reason for believing that we are witnessing the renaissance of the general practitioner—or at least of the family doctor.

* * *

DOCTORS' INCOMES

No doubt many, if not most, readers of the NORTH CAROLINA MEDICAL JOURNAL read also *Medical Economics*. Even so, two comments in the January issue of that journal are worth the emphasis of repetition.

In a recent survey, a *Medical Economics* reporter found that physicians' incomes have increased somewhat with our inflated currency—although not nearly so much as the cost of living generally. The survey also pointed out that the average physician's office expenses had also increased, so that two fifths of his gross income goes for professional expenses, not including taxes.

Another finding was that practically all doctors put in a great deal of overtime work. According to the survey, "the family doctors works an average of sixty-two hours a week. Twenty-two of these hours must be counted as overtime; perhaps five of these hours represent Sunday work. For pay purposes, therefore, he'd be credited with about seventy-five hours a week, or 3,750 a year . .

"The average family doctor nets $14,098 annually. Divide this figure by his hourly credits for the year (3,750) and you get the equivalent of hourly base pay. It turns out to be $3.76 an hour . . . The interesting thing about this figure is its strong resemblance to current base pay for skilled union labor. Many bricklayers, for example, get $3.25 an hour nowadays. And if other workers earn less, and if medical specialists earn more, isn't this explainable in terms of *degree* of specialized skill?"

BULLETIN BOARD

News Notes from the University of North Carolina School of Medicine

The School of Medicine, University of North Carolina, has received a grant of $160,000 from the Commonwealth Fund for financial assistance to the General Clinic of the Staff or Service Out Patient Department of the North Carolina Memorial Hospital.

The General Clinic, under the direction of Dr. William L. Fleming, has been organized in an attempt to improve educational opportunities for medical students and service for patients eligible for the Out Patient Department (those unable to pay full cost of hospital medical care). This Clinic replaces the customary general medical, medical sub-specialty, and general surgical clinics with specialty consultation service available within the Clinic. By virtue of its type of organization, the total number of separate clinics has been reduced from the customary 40 to 50 of the usual teaching hospital to approximately 10. Every effort is being made to do the maximum for the patient in the minimum number of visits and to insure that full informative reports are sent out promptly to physicians and agencies referring patients to the General Clinic for diagnosis or care.

Plans call for students in their final year of medical school to spend a substantial block of time in the General Clinic so they will have an opportunity over a considerable period of time to observe patients who depend on the clinic for their medical care.

A cordial invitation is extended to physicians of the state to visit the Out Patient Department of North Carolina Memorial Hospital, and suggestions for improvement of service are welcomed.

* * *

Postgraduate medical courses sponsored by the University School of Medicine and the Extension Division have been arranged at Raleigh with the Wake County Medical Society as co-sponsor, and at Lumberton with the Robeson County Medical Society as co-sponsor. The programs are as follows:

Lumberton

January 28

4:00—Management of Bright's Disease

7:30—Management of Patients with Disease of the Coronary Arteries (Both lectures will include diagnosis as a part of the problem of management.)
Dr. William Dock, State University of New York College of Medicine, New York City

February 4

4:00—Obstetrical Procedures in Relation to Birth Injury in the Newborn Child

7:30—Hyaline Membrane Associated with Atelectasis
Dr. George W. Anderson, Johns Hopkins University

February 18

Topic to be announced.
Dr. Ralph I. Lloyd, Brooklyn.

February 25

4:00—Gastrointestinal Problems seen in General Practice

7:30—Old Age—A Promise or a Problem
Dr. Louis A. M. Krause, University of Maryland

March 4

4:00—Certain Aspects of our Knowledge of Poliomyelitis

7:30—The Behavior Problems of Children
Dr. A. A. Weech, Children's Hospital Research Foundation, Cincinnati

March 11

Speaker and topic to be announced.

Raleigh

January 29

4:00—Management of Bright's Disease

7:30—Management of Patients with Diseases of the Coronary Arteries (Both lectures will include diagnosis as a part of the problem of management.)
Dr. William Dock, State University of New York College of Medicine, New York City

February 5

4:00—Obstetrical Procedures in Relation to Birth Injury in the Newborn Child

7:30—Hyaline Membrane Associated with Atelectasis
Dr. George W. Anderson, Johns Hopkins University

February 19

Topic to be announced.
Dr. Ralph I. Lloyd, Brooklyn.

February 26

4:00—Modern Treatment of Kidney Tuberculosis

7:30—Treatment of Tuberculosis in the Male Genital Tract
Dr. John Kingsley Lattimer, Columbia University College of Physicians and Surgeons

March 5

4:00—Certain Aspects of our Knowledge of Poliomyelitis

7:30—The Behavior Problems of Children
Dr. A. A. Weech, Children's Hospital Research Foundation, Cincinnati

March 12

Speaker and topic to be announced.

* * *

Dr. Robert D. Langdell, of the Department of Pathology, spoke on "Recent Studies on Hemophilia" at the Second Annual Symposium on the Blood of the Wayne University College of Medicine in Detroit on January 17. Dr. Robert H. Wagner, also of the Pathology Department, attended the Seventh Conference on Formed Elements and Proteins of the Blood at the University Laboratory of Physical Chemistry of Harvard University on January 15.

* * *

Dr. David R. Hawkins, instructor in psychiatry, presented a paper on "Mental Disorders Among the Aged" as one of the series of Fowler Lectures at the Edgewood Sanitarium Foundation in Orangeburg, South Carolina, in December.

* * *

Doctors Edward C. Curnen, William L. Fleming, Richard M. Peters, Ernest Craige, Loren G. MacKinney, Carl W. Gottschalk, and William P. Richardson presented a panel on Rheumatic Fever and Rheumatic Heart Disease at the December meeting of the Alamance County Medical Society.

* * *

Dr. Thomas W. Farmer, professor of medicine in charge of neurology, attended the meeting of the Association for Research in Nervous and Mental Diseases in New York during December and gave a paper on "Chemical and Physiologic Effects of Excessive Heat." Dr. Louis G. Welt discussed "Metabolic Considerations in Congestive Heart Failure" at a meeting of the Wilson County Heart Association on December 10. Dr. Isaac Taylor met with the Granville County Medical Society and spoke on "Rheumatoid Arthritis."

* * *

Recent grants to the School from the U. S. Public Health Service for research projects include: $13,770 to Dr. Louis G. Welt, associate professor of medicine, for studies of the factors regulating the internal and external exchanges of electrolytes and water in health and disease; $9,153 per year, to run for four years, to Dr. John B. Graham, assistant professor of pathology, to study the role of inhibitors in hemophilia; $5,477 to Dr. C. G. Thomas and $2,700 to Dr. Paul Bunce, assistant professors in surgery. Dr. Thomas is studying the lymphatic dissemination of human cancer as an aid to its evaluation and treatment; Dr. Bunce's project is designed to investigate the early behavior of bladder tumors. Renewal of two grants in the Department of Pharmacology: $5,000 to Dr. Thomas C. Butler to continue his study of the metabolic fate of N-substituted derivatives of barbituric acid and hydantoin; $4,800 to Dr. T. Z. Csaky to continue a study of the metabolism and the physiologic utilization and actions of methyl ethers of monosaccharides.

* * *

Dr. Nathan Womack, professor of surgery, was guest speaker at the December meeting of the Washington Academy of Surgery in Washington, D. C.; his topic was "Diseases of the Biliary Tract." During January he served as Visiting-Chief-of-Surgery for a week at the James Walker Memorial Hospital in Wilmington and at the Cleveland Clinics in Cleveland.

* * *

Dr. Leonard Palumbo, Jr., of New York City, has joined the staff as assistant professor of obstetrics and gynecology. A graduate of Duke University School of Medicine, Dr. Palumbo received additional training at Duke Hospital, and until November, 1952, held the position of associate in obstetrics and gynecology at Duke.

News Notes from the Duke University School of Medicine

Dean W. C. Davison of the Duke University Medical School has been honored for his contributions to medicine by associates, students, and former house officers who presented the Duke dean with a bound certificate at a testimonial dinner held in Chicago on December 4.

Describing the dean as "educator, author, humanitarian and complete pediatrician," the citation declares Dr. Davison's book, **The Compleat Pediatrician**, indispensable to all who practice pediatrics. As friend and counselor, the citation says, the Duke dean "has trained well, hundreds of practicing pediatricians, and his versatility, comprehensive knowledge and enormous capacity for work have made him a real leader in his field."

* * *

Dr. Wiley D. Forbus, Duke University pathologist, has been appointed consultant to the U.S. Atomic Energy Commission's Division of Biology and Medicine, it was announced recently. Dr. Forbus, chairman of Duke's Department of Pathology, will serve as consultant in the South on pathologic problems relating to claims of radiation and other type injuries against the government.

* * *

Duke University has received a $9,928 March of Dimes grant for muscle research to combat polio by Dr. J. E. Markee, according to an announcement made jointly by Basil O'Connor, president of the National Foundation for Infantile Paralysis, and Dr. Hollis Edens, president of Duke University.

Dr. Markee, medical scientist and chairman of Duke's Department of Anatomy, has been conducting research aimed at improving the results of muscle transplant operations needed by paralyzed polio patients. The grant will enable Duke scientists to determine whether the structural and functional characteristics of muscles can be changed. The Duke project is designed to find out whether flexor muscles can be made to do the work of extensor muscles and vice versa.

A pioneer in audio-visual aids in medical teaching, Dr. Markee recently received another March of Dimes grant for continued production of movies, which the foundation is distributing throughout the nation. The movies are helping physicians and physical therapists to better understand functional anatomy.

Both Dr. Markee and Dr. Lenox D. Baker, Duke orthopedic surgeon, are members of the executive committee of the North Carolina Chapter of the foundation.

* * *

Two Duke University medical students have been awarded Pfizer Scholarship Funds for 1952-53, according to an announcement by Dr. Kenneth E. Penrod, assistant dean.

The students are Edward M. Bjerk of Burlington, and Robert Wiita of Monessen, Pennsylvania. Both are second year students and each will receive $500 toward his medical education during the current academic year.

The fund is sponsored by the Antibiotic Division, Charles Pfizer and Company, Brooklyn, New York. The award has just been established for promising and worthy students in certain selected medical schools.

Wiita, a 1951 Duke graduate, was elected to Phi Beta Kappa in his junior year. He served on the editorial staff of the Chanticleer, Duke yearbook, as advertising manager of the Chronicle, campus newspaper, as business manager of the Student Directory, and as business manager of the YMCA Freshman Handbook. He is the son of Walter Wiita of Monessen, Pennsylvania.

Bjerk received his A. B. degree from Elon College and later did graduate work at the University of North Carolina. He is the son of Mrs. Ella Bjerk of 116 Stagg Street, Burlington.

Both Bjerk and Wiita plan to accept Army internships upon graduation.

* * *

Dr. Leonard J. Ravitz, associate in psychiatry at Duke, told two National scientific associations that results of a microvoltmeter test are now being used with other clinical findings to detect schizophrenia (the most emotionally disturbed mental cases.)

"We can definitely diagnose the changing degrees of mental disturbance," Dr. Ravitz declared at joint meetings here of the American Association for the

Advancement of Science and the American Psychiatric Association. "The test appears to be to psychiatry and psychology what the sedimentation rate is to tuberculosis."

Dr. Ravitz said that after a personality has been thoroughly studied, one can predict in a general way the most abnormal reactions over a short period of time. These reactions will be based on each person's individual personality make-up.

Watts Hospital Medical and Surgical Symposium

The tenth annual Medical and Surgical Symposium of Watts Hospital will be held at the Carolina Theatre in Durham February 11 and 12. The following program has been arranged:

Wednesday, February 11

11:00 a.m.

Clinicopathologic Conference — Joseph E. Flynn, M.D., Associate Professor of Pathology, Columbia University College of Physicians and Surgeons, New York; Ross Golden, M.D., Professor of Radiology, Columbia University College of Physicians and Surgeons; Director of the Department of Radiology, The Presbyterian Hospital, New York; Wesley W. Spink, M.D., Professor of Medicine, University of Minnesota, Minneapolis; David A. Karnofsky, M.D., Associate Professor of Medicine, Sloan-Kettering Division, Cornell University Medical College; Memorial Center for Cancer and Allied Diseases, New York; H. McLeod Riggins, M.D., New York

2:00 p.m.

Cancer of the Stomach—George T. Pack, M.D., Attending Surgeon, Memorial Center for Cancer and Allied Diseases; Associate Professor of Clinical Surgery, Cornell University Medical School; Clinical Professor of Surgery, New York Medical College; Pack Medical Group, New York

3:00 p.m.

Modern Therapeutic Procedures in Psychiatry—Kenneth E. Appel, M.D., Professor of Psychiatry, University of Pennsylvania, Philadelphia

4:15 p.m.

Precancerous Dermatoses and Their Treatment—Edward P. Cawley, M.D., Professor of Dermatology and Syphilology, University of Virginia, Charlottesville.

8:00 p.m.

Panel Discussion on Gastritis from the Viewpoint of Various Specialties—**Internal medicine:** Thomas E. Machella, M.D., Assistant Professor of Medicine, and Chief of the Gastrointestinal Clinic, University of Pennsylvania, Philadelphia, Moderator; **Psychiatry:** Kenneth E. Appel, M.D., University of Pennsylvania, Philadelphia; **Radiology:** Ross Golden, M.D., Columbia University, New York; **Surgery:** George T. Pack, M.D., Memorial Cancer Center, New York; **Pathology:** Joseph E. Flynn, M.D., Columbia University, New York

Thursday, February 12

10:30 a.m.

The Management of Lymphomas and Leukemias—David A. Karnofsky, M.D., Memorial Cancer Center, New York

11:30 a.m.

Clinical Problems Relating to the Management of Infections with Antibiotics—Wesley W. Spink, M.D., University of Minnesota, Minneapolis

2:00 p.m.

Problems of Ulcerative Colitis—Thomas E. Machella, M.D., University of Pennsylvania, Philadelphia

3:00 p.m.

X-Ray Examination in Certain Functional Disorders of the Small Intestine—Ross Golden, M.D., Columbia University, New York

4:15 p.m.

Recent Advances in and Basic Concepts of Prolonged Chemotherapy and Resection Surgery of Pulmonary Tuberculosis—H. McLeod Riggins, M.D., New York

North Carolina State Board of Health

Since 1916, the year this state was admitted to the registration area for deaths, 1,167,028 deaths have been officially reported in North Carolina. Of this number, 187,773 were victims of heart disease, which was responsible for 2,372 deaths in 1916 and 10,342 last year.

These figures were released by Dr. J. W. R. Norton and were based on a report made to him by the Public Health Statistics Section of the State Board of Health.

The panoramic picture of deaths in North Carolina contained in the report shows, among other things, that there were fewer deaths, from all causes, in 1951 than in 1916, although the population in 1916 was less than 2,500,000, compared with more than 4,000,000 last year. To be specific, there were 31,389 deaths reported in the state in 1916, and only 31,140 in 1951.

A study of the report shows there were only 54 motor vehicle deaths reported in 1916, compared with 1,143 last year, according to the State Board of Health's method of computation. The increase is due, of course, in large measure, to the increase in the number of motor vehicles. Yet, there were more deaths from accidents due to other causes in 1916 than in 1951, namely 1,312 during the former year and 1,253 in 1951. There has never been any appreciable decrease in the number of deaths from accidental causes reported. It is also true that most fatal accidents occur in the homes of the state. The State Board of Health has authorized the setting up of a section to make a special study of accidents and how these can be reduced or prevented.

Deaths from a number of diseases have shown tremendous decreases since the State Board of Health began keeping accurate records. For example, typhoid fever killed 702 people in North Carolina in 1916, compared with only three last year, while tuberculosis deaths decreased from 3,577 in 1916 to 630 last year.

Causes for Declines

There were 410 deaths from diphtheria in North Carolina in 1916, compared with only 18 in 1951. This decrease is due, of course, to immunization, which is the one method of preventing the disease. There have been only five smallpox deaths in North Carolina in the past 21 years.

Pneumonia deaths have been greatly reduced since the discovery of modern drugs with which the disease now is treated. This disease had 2,517 victims in North Carolina in 1916; 1,020 in 1951.

From 1916 through 1948, nephritis, or Bright's disease, was responsible for from 2,000 to 3,000 deaths each year, and sometimes over 3,000, in North Carolina. In 1949, the total dropped to 843; in 1950, to 816; and in 1951, to 704. A physician who was asked to explain this said that, undoubtedly, the fact that more people now are being cured of

ailments that formerly resulted in Bright's disease than ever before has a bearing on the sharp decline in nephritis deaths.

One of the formerly often fatal diseases that has been all but whipped in North Carolina is pellagra. Deaths from this cause in 1916 numbered 485—and in 1930, 1,031—as compared with only 14 last year. Better nutrition is credited with this sharp decline. Within the past few years, a study, and the teaching of, good nutrition has become an established part of public health work, on both the state and local levels.

Malaria has been all but wiped out in North Carolina, Dr. Norton's report points out. It caused 337 deaths in 1916 and only three last year. The elimination of breeding places of the malaria-bearing mosquito is credited with this decline, together with improved insecticides and better screening of homes.

Other Declines and Increases

Whooping cough, which was responsible for 402 deaths in North Carolina when the state began keeping accurate records of the causes of death, killed 402 North Carolina children in 1916, compared with only fifty-three in 1951. Whooping cough is preventable and there now is a law requiring immunization during the first year of a child's life.

During the period under survey declines in deaths from other causes have been: Senility, 633 to 92; syphilis, 305 to 113; dysentery, 457 to 20; erysipelas, 42 to 1; diarrhea in children under two years old, 1,871 to 250; total deaths of babies under one year of age, 7,112 to 3,620; maternal deaths, 593 to 118.

Sharp increases have occurred as follows: Cancer, 1,083 to 3,283; suicide, 82 to 288; homicide, 293 to 321; apoplexy, 1,882 to 4,030.

North Carolina Heart Association

As a part of its rheumatic fever program, the Heart Association of Charlotte and Mecklenburg County is providing a tutoring and diversional or recreational service for rheumatic fever patients on a small demonstration basis. In this way, children who must stay out of school because of rheumatic fever or rheumatic heart disease are being helped to keep up with their school work. In each case the volunteer tutors work closely under the direction of each child's physician.

The tutoring and diversions are used to begin rehabilitation for the child and education for him and his family in understanding the doctor's directions for preventing recurrence of the disease. The happy and constructive attitude of the child in each case has been remarked upon by the physicians as a positive factor in the child's total treatment.

William Allan Memorial Lectures

The William Allan Memorial Lectures were held in Charlotte on Tuesday, January 6, under the sponsorship of the Mecklenburg County Medical Society and the Heineman Foundation. Speakers and their subjects were:

Lawrence B. Ellis, M.D., Assistant Clinical professor of Medicine, Harvard Medical School, and Chief of the Cardiac Clinic, Boston City Hospital—"An Internist Views Surgery of the Mitral Valve"; Dwight E. Harken, M.D., Assistant Clinical Professor of Surgery, Harvard Medical School, and Chief of Thoracic Surgery, Peter Bent Brigham Hospital—"Surgery of the Mitral Valve: A Clinical Discussion and Motion Picture Demonstration."

Carteret County Medical Society

The Carteret County Medical Society held its regular monthly meeting at the Morehead City Hospital Monday night, December 8. This was a dinner meeting, the hospital acting as host.

Since the December meeting is the time for the election of officers no scientific program was presented.

The Public Health Relations Committee reported that arrangements had been made with the Superintendent of Schools, H. L. Joslyn, for an Essay Contest in the high schools, the subject being, "Why the Private Practice of Medicine Furnishes this Country with the Finest Medical Care." Substantial prizes are offered on the local, state and national levels, the first national prize being $1,000.00.

Dr. Alan Davidson of New Bern, visitor to the society, discussed certain medical matters which may come before the next session of the General Assembly, particularly as related to optometry.

Officers elected for the coming year were: Dr. Luther Fulcher, Beaufort, president, succeeding Dr. M. B. Morey; and Dr. Manly Mason, Newport, secretary-treasurer, succeeding Dr. Fulcher.

Two other committees of the society, the Public Relations Committee and the Censorship Committee, were consolidated; members of the Consolidated Committee are: Dr. N. Thomas Ennett, chairman; Dr. F. E. Hyde, and Dr. John W. Morris.

Dr. B. F. Royal was elected delegate to the North Carolina Medical Society, and Dr. K. P. B. Bonner the alternate.

Dr. Luther Fulcher presided in the absence of Dr. M. B. Morey, the president.

N. Thomas Ennett, M.D.
Corresponding Secretary

Edgecombe-Nash Medical Society

The Edgecombe-Nash Medical Society held its regular monthly dinner meeting on December 10, at which time officers were elected for the coming year.

Forsyth County Medical Society

Officers were elected at the December meeting of the Forsyth County Medical Society.

News Notes

Dr. J. S. Gaul of Charlotte has announced the association of Dr. John Stuart Gaul, Jr., in the practice of orthopedic surgery.

South Carolina Heart Association

A symposium on cardiovascular diseases will be presented by the South Carolina Heart Association at the Greenville General Hospital, Greenville, South Carolina, on Wednesday, February 4, 1953. Interested physicians are invited to attend.

American College of Surgeons

An attractive program of papers, panels, and symposiums will be offered at the Sectional Meeting of the American College of Surgeons to be held at the Atlanta Biltmore Hotel in Alanta, Georgia, February 23-24. Dr. William G. Hamm, Atlanta, chairman of the Committee on Arrangements, has collaborated with the Georgia chapter of the college in planning the meeting. An added feature is the concurrent Atlanta Postgraduate Medical Assembly to

which Sectional Meeting visitors are cordially invited. There will be three joint sessions of the assembly and college meetings.

Dr. Hamm will preside at the opening meeting Monday morning, February 23, which will feature a paper on "Pitfalls in Biliary Surgery" by Dr. Robert S. Dinsmore, Cleveland. A symposium on trauma will follow, with Dr. Robert G. Ellison, Augusta, speaking on "Cardiovascular Injuries"; Dr. James K. Stack, Chicago, "Present Status of Intramedullary Nailing"; Dr. S. Benjamin Fowler, Nashville, "Hand Injuries"; and Dr. Anthony F. DePalma, Philadelphia, "Management of Fractures of the Upper End of the Humerus."

Dr. David Henry Poer, Atlanta, will preside at the afternoon panel discussion on "Problems of Anesthesia," with Dr. Henry Knowles Beecher, Boston, as moderator, and Dr. William H. Galvin, Jr., Emory University, Dr. Leo V. Hand, Boston, and Dr. Perry P. Volpitto, Augusta, collaborating. A panel discussion with the Atlanta Postgraduate Medical Assembly on "Thrombosis and Embolism" will follow. Dr. Frederick W. Cooper, Jr., Emory University, will serve as moderator. Collaborators will be Dr. Keith S. Grimson, Durham; Dr. David James, Atlanta; Dr. Samuel A. Levine, Boston; Dr. George D. Lilly, Miami; and Dr. Henry A. Schroeder, St. Louis.

Dr. Josiah Crudup, president, Brenau College, and Dr. H. Prather Saunders, associate director, American College of Surgeons, will be guest speakers at the dinner meeting Monday evening. A symposium on cancer will follow, with Dr. Edwin P. Lehman, Charlottesville, presiding. Participants include Dr. R. Kennedy Gilchrist, Chicago; Dr. Julian Johnson, Philadelphia; and Dr. James Elliott Scarborough, Jr., Emory University.

On Tuesday morning, February 24, Dr. Peter B. Wright, Augusta, will preside over a meeting which will include the following papers: "Resuscitation from Shock in Late Intestinal Obstruction" by Dr. Champ Lyons, Birmingham; "Cardiac Arrest" by Dr. Robert M. Hosler, Cleveland; "Abdominal Emergencies in Infants" by Dr. Grover C. Penberthy, Detroit; "Differential Diagnosis of Jaundice" by Dr. John D. Martin, Jr., Emory University.

A symposium on gynecology will comprise the afternoon session, at which Dr. Daniel C. Elkin, Emory University will preside. Participants will include Dr. Curtis Tyrone, New Orleans; Dr. John C. Burch, Nashville; and Dr. George L. Wickster, Oak Park, Illinois. Dr. Elkin will also preside over the joint session with the Atlanta Postgraduate Medical Assembly panel discussion, on "Gastrointestinal Tract Bleeding." Dr. Frank Glenn, New York, will moderate, and collaborators will include Dr. H. H. Bradshaw, Winston-Salem; Dr. Ira A. Ferguson, Atlanta; Dr. Franz J. Ingelfinger, Boston; and Dr. James M. Mason, Birmingham.

Dr. Willard H. Parsons, Vicksburg, will preside at the morning session on February 25. Speakers will include Dr. Frank H. Mayfield, Cincinnati; Dr. H. H. Bradshaw, Dr. Grover C. Penberthy, and Dr. Harwell Wilson, Memphis.

Dr. Joseph M. Donald, Birmingham, will preside at the afternoon meeting, at which Dr. Harold A. Zintel, Philadelphia, and Dr. Fred W. Rankin, president-elect of the college, will speak. At 3 p.m. a clinicopathologic conference with Atlanta Postgraduate Medical Assembly will be held. Moderator will be Dr. David James, Atlanta, and collaborators Dr. Osborne A. Brines, Detroit; Dr. Frederick A. Coller, Ann Arbor; Dr. Frank Glenn, New York; and Dr. Charles S. Keefer, Boston.

New surgical motion pictures will open many of the sessions.

Surgeons from the southeastern states of Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee and Virginia will be present, although there is no restriction on attendance from outside the area.

* * *

The first Inter-American Session of the American College of Surgeons, to be held in Sao Paulo, Brazil, February 9-12 will offer a combination of excellent scientific meetings of wide variety as well as enjoyable vacation prospects. The Committee on Arrangements is headed by Dr. Benedicto Montenegro, honorary chairman, Dr. Moacyr E. Alvaro, chairman, and Dr. E. J. Zerbini, secretary.

Information on attendance at this session may be obtained by writing The American College of Surgeons, attention of Dr. H. Prather Saunders, Associate Director, 40 East Erie Street, Chicago 11, Illinois.

News Notes from the American Medical Association

House Action on Federal Medical Services

After long debate, the A.M.A.'s House of Delegates adopted a resolution stating that the fundamental consideration of limiting the care of veterans in Veterans Administration hospitals to the two following categories is sound: (1) to veterans with peacetime or wartime service whose disabilities or disease are service-incurred or aggravated; and (2) to veterans with wartime service suffering from tuberculosis or psychiatric or neurologic disorders of non-service-connected origin, who are unable to defray the necessary hospital expenses.

The resolution further comments that to discontinue the provision of medical care and hospitalization in VA hospitals for the remaining groups of veterans with non-service-connected disabilities cannot be accomplished without the cooperation of Congress, veterans organizations and the medical profession. The House of Delegates recommended that the A.M.A. meet with representatives of veterans organizations, the American Hospital Association, American Dental Association, the Department of Defense, and the Veterans Administration to discuss problems and work out a satisfactory arrangement . . . rather than take action at the present time.

Other recommendations include: a definitive A.M.A. policy on the subject of dependent medical care should be deferred until more study has been made; transferring of seriously disabled service personnel from service hospitals to VA installations should be continued; a clear congressional definition of the extent of government's responsibility for furnishing medical care to veterans with non-service-connected disabilities and dependents of service personnel should be obtained; a federal board should be established to allocate the number of beds required by the several federal hospital services to insure joint planning in the field of civilian and federal hospital construction and to determine the need and location for proposed new hospitals in the country.

* * *

A.M.A. to Continue Study of Doctor Draft Law

The A.M.A.'s House of Delegates voted in December to "continue to support whatever measures are necessary to provide essential medical care to the armed services."

The House further authorized and directed the Board of Trustees and the Council on National Emergency Medical Service (1) to follow closely all developments both national and international which

might affect the quantitative requirements for medical officers in the armed forces, and (2) to support legislation to provide the number of medical officers required to care adequately for the health needs of the uniformed armed forces.

The House recommended that the President of the United States be requested to defer any call-up of priority 3 physicians under Public Law 779 until the Selective Service System and the Department of Defense have completed processing all physicians in priorities 1 and 2, except for physicians in those groups whose deferment is essential to the nation's health.

Careful study also is to be given in the ensuing months to—physical requirements for medical officers so that physicians with physical defects may be utilized; more effective recruitment methods for career personnel in military medicine; greater use of civilian physicians and hospital facilities in the care of both military and nonmilitary personnel and their dependents; uniform conditions of service to avoid undue competition for medical personnel, and consideration of an equitable point system in the induction of physicians into the armed services.

* * *

A.M.A. Revises the "Essentials of an Approved Internship"

An Advisory Committee on Internship, appointed by the Council on Medical Education and Hospitals in the fall of 1951, conducted a study in the past year reviewing the internship in its broadest aspects. As a result of its study the Advisory Committee recommended revisions in the "Essentials of an Approved Internship," which were ratified by the A.M.A.'s House of Delegates in December.

Among the changes in the requirements for hospitals offering intern programs were the following: Approval by the Joint Commission on Accreditation of Hospitals; bed capacity increased to 150, excluding bassinets; annual admissions increased to 5,000, exclusive of the newborn, and the autopsy rate increased to 25 per cent.

The revised "Essentials" became effective January 1 for new approvals. The autopsy rate of 25 per cent became effective for all hospitals January 1.

* * *

A.M.A. Encourages "Medical Care for All" Programs

Medical societies were called upon to establish programs providing the services of a physician to anyone unable to pay for it at the A.M.A.'s House of Delegates session in December. Since a number of county medical societies for several years have successfully maintained such programs, the House resolution urged the American Medical Association to encourage constituent state medical societies "to organize and vigorously promote similar campaigns embodying the principles of such programs." Medical societies were urged to publicize such programs "through every effective medium of communication."

* * *

A.M.E.F. Funds

Contributions to the American Medical Education Foundation in 1952 totaled more than $886,430. This includes an American Medical Association grant of $500,000 voted by the House of Delegates in December, 1951, at Los Angeles. In all, 6,739 contributions have been recorded from 6,697 individuals, 11 laymen and 31 organizations.

Distribution of Class A grants for the 79 medical schools in the country was made in August . . . . $15,000 for each of the 72 four-year schools; $7,500 for each of the six two-year schools, and $11,250 for one three-year school.

Particularly encouraging . . contributors up 4,863 over 1951 . . . total receipts up $140,513 over 1951.

Mississippi Valley Medical Society

The Thirteenth Annual Essay Contest of the Mississippi Valley Medical Society will be held in 1953. The Society will offer a cash prize of $100, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics and education) and practical value to the general practitioner of medicine. Certificates of merit may also be granted to the physicians whose essays are rated second and third best.

Contestants must be members of the American Medical Association who are residents and citizens of the United States. The winner will be invited to present his contribution before the eighteenth annual meeting of the Mississippi Valley Medical Society to be held in Springfield, Illinois, September 23, 24, 25, 1953, the society reserving the exclusive right to publish first the essay in its official publication—the **Mississippi Valley Medical Journal** (incorporating the **Radiological Review**). All contributions shall be typewritten in English in manuscript form, submitted in five copies, not to exceed 5,000 words, and must be received not later than May 1, 1953. The winning essays in the 1952 contest appear in the January 1953, issue of the **Mississippi Valley Medical Journal** (Quincy, Illinois).

Further details may be secured from Harold Swanberg, M.D., Secretary, Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Illinois.

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The following are the Mississippi Valley Medical Society officers recently elected (November 23):

President-elect, Dr. Norris J. Heckel, Chicago; first vice president, Dr. J. S. Jackson, Mt. Pleasant, Iowa; second vice president, Dr. D. A. Bennett, Canton, Illinois; third vice president, Dr. A. W. Neilson, St. Louis, Missouri; secretary-treasurer, Dr. Harold Swanberg, Quincy, Illinois (re-elected); assistant secretary-treasurer, Dr. J. E. Reisch, Springfield, Illinois (re-elected); accounting officer, Dr. M. E. Rolens, Springfield, Illinois.

Dr. C. F. H. Pfeiffer of Quincy, and Dr. D. M. Gover, Springfield, have been elected directors to serve one year. Dr. John I. Marker of Davenport, Iowa, is the 1953 president. The 1953 meeting will be held at the Elks Club, Springfield, September 23, 24, 25 and the 1954 meeting at the Hotel Sherman, Chicago, September 22, 23, 24.

American National Red Cross

The following statement has been issued by E. Roland Harriman, president of the American National Red Cross, during a press conference in the New York Chapter headquarters at 315 Lexington Avenue:

The Red Cross has been called upon to undertake an immediate and dramatic expansion of its participation in the National Blood Program to make available all the gamma globulin possible for the prevention of paralysis from poliomyelitis. Experiments conducted over the past two years in Provo, Utah; Houston, Texas; and Sioux City, Iowa, under the auspices of the National Foundation for Infantile Paralysis and as a part of their total research program, have demonstrated the effectiveness of this treatment. The Red Cross provided the gamma globulin used in these experiments without cost.

The Red Cross will not allocate or distribute the gamma globulin. Since the amount of globulin needed will far exceed the expected supply, the Office of Defense Mobilization has requested the National Research Council to consult with appropriate professional, industrial, and governmental groups to

determine the most feasible and equitable method of allocation and distribution in time for the next polio season.

The Red Cross will furnish its total supply of gamma globulin to the allocation agency without charge for the product in keeping with the policy now governing our distribution of blood and blood products.

Over and above this new project, we must continue to meet the day-by-day blood needs of civilian hospitals and of the Korean wounded, and continue to build the nation's plasma reserve through the 61 blood centers operated by the Red Cross and the centers operated by the cooperating blood banks. In all, the Red Cross—and private blood banks cooperating with it—must collect blood at the rate of approximately 5,000,000 pints a year if this total program is to be carried out successfully.

We have responded to this emergency appeal and all our chapters have been alerted, relying upon the cooperation of everyone concerned. We are confident that the people in turn will respond with blood and money so that within the near future new hope for children who are exposed to polio may be piling up in blood bottles across the nation and the pipeline to processing facilities will be kept full.

United Cerebral Palsy

Dr. Abner Wolf, professor of neuropathology at the Columbia University College of Physicians and Surgeons and a life-long specialist in disorders of the nervous system, was presented with the annual United Cerebral Palsy—Max Weinstein Award for "outstanding scientific achievement" in the field of cerebral palsy at the third annual convention of the United Cerebral Palsy, which convened in New York in November.

The $1,000 award and a plaque, made possible by a bequest from the late Max Weinstein, philanthropist, were given to Dr. Wolf for his experimental work in the area of prenatal damage—caused by injuries or infection to the mother—as a factor of subsequent cerebral palsy, a condition which handicaps over 200,000 children in the United States.

The annual Max Weinstein Award is part of a broad program of research organized by United Cerebral Palsy. During the past three years the organization has provided grants-in-aid totalling $410,000 to university and hospital research projects throughout the nation, it was announced at the convention.

Significant new research developments, on the surgical reorganization of the brain and the possibilities of brain tissue regeneration, were presented at United Cerebral Palsy's Fourth Research Symposium, which also convened in November at the New York Academy of Medicine.

National Society for Crippled Children and Adults

Record-making progress in Easter Seal services and facilities for the crippled during the past year was reported December 31 by the National Society for Crippled Children and Adults.

Lawrence J. Linck, executive director of the Easter Seal Society, pointed out in a special year-end progress report that Easter Seal care and treatment for crippled children and adults reached an all time high, with 685 separate facilities in operation across the nation in 1952.

Mr. Linck's report also revealed that 30 million Americans who received sheets of Easter Seals in the mail during the 1952 Easter Seal Campaign responded more generously than ever before in the appeal to help their crippled neighbors. Each year since its beginning, Easter Seal returns have increased the report indicated. In the past 10 years it has grown by more than 500 per cent to a 1952 figure of more than $6,716,000.

This year's productive services, conducted by Easter Seal affiliates in each of the 48 states, District of Columbia, Alaska, Hawaii, and Puerto Rico, include: 78 diagnostic and evaluation clinics; 171 outpatient treatment centers, of which 127 received all or almost all their support from Easter Seal funds—the remaining 44 through joint operation; 10 residential centers; 21 rehabilitation centers and curative workshops; 32 planned treatment centers; 97 speech and hearing facilities and services; 187 public school systems receiving assistance; 40 sheltered workshops and homebound programs; 33 craft outlets; and 16 programs of special education.

The executive director's year-end report also pointed out the Easter Seal society's progress toward establishment of a $140,000 per year research program, now ratified by more than half of the required number of states. It also included the progress of steady growth in the Society's programs supporting professional training of doctors, therapists, teachers, and counselors for the crippled through scholarships and fellowships.

American Society for the Study of Sterilty

The American Society for the Study of Sterility announces the opening of the 1953 contest for the most outstanding contribution to the subject of infertility and sterility. The winner will receive a cash award of one thousand dollars, and the essay will appear on the program of the 1953 meeting of the society. Essays submitted in this competition must be received not later than March 1, 1953. For full particulars concerning requirements of this competition, address the American Society for the Study of Sterility, c/o Dr. Herbert H. Thomas, 920 South 19th Street, Birmingham, Alabama.

The author should append on a separate sheet of paper a short biographical sketch of himself and include a photograph to be used in the necessary publicity should he be the winner of the award.

First World Congress on Fertility and Sterility

The First World Congress on Fertility and Sterility will be held on May 25-31, 1953, at the Henry Hudson Hotel in New York City. This Congress is sponsored by the Internationl Fertility Association with the cooperation of the American Society for the Study of Sterility.

Twenty-three scientific sessions embracing the entire field of fertility and sterility, including sessions dealing with socio-economic factors, psychosomatic aspects, and artificial insemination, will be held. The sessions will be conducted in English, French. and Spanish, with the earphones and simultaneous translations, as in the United Nations meetings. In addition to the scientific sessions, there will be medical round table discussions, question and answer periods, scientific exhibits, and motion pictures.

It is anticipated that 1,800 scientists from 51 countries will attend the congress, making it the world's largest medical meeting devoted to problems of reproduction. This congress will facilitate the exchange of ideas and information among doctors from the various countries, dealing with the very latest findings in fertility studies.

Since seats at the Congress will be at a premium, it is suggested that those who plan to attend write as soon as possible to the chairman of the Local Arrangements Committee, 1160 Fifth Avenue, New York 29, New York, for advance registration.

World Medical Association

In a Thanksgiving message, Dr. Louis H. Bauer, president of the American Medical Association, said that "the length of human life in the United States has doubled—for Americans as a whole since our nation was founded and for the industrial population within just the past 75 years."

Dr. Bauer announced that in recognition of this achievement the World Medical Association, of which he is secretary-general, is calling its first western hemisphere conference. The event will be held in Richmond, Virginia, from April 23 to 25, 1953.

"Medical leaders from the American republics and United States practitioners and specialists will share existing knowledge of how life can be made longer and healthier," he said. "Together they will explore new medical horizons that hold the promise of further advance."

Meeting jointly with the World Medical Association at the western hemisphere conference will be the Pan American Medical Confederation of which Dr. Jose Angel Bustamante of Havana, Cuba, is president. Leaders of national medical societies making up these groups are expected at the Richmond meeting, along with speakers representing the 19 recognized medical specialties and the field of general practice. Dr. Bauer will act as moderator.

He said that a special grant by the A. H. Robins Co., Inc., ethical pharmaceutical house of Richmond, will meet the costs of holding the conference and arranging for speakers and program of the doctors' own choosing.

* * *

Each of the nation's governors has received an invitation to name a 75 year old doctor to attend the first western hemisphere conference of the World Medical Association as a guest of honor. The conference will be held at Richmond, Virginia, April 23 to 25, 1953.

The invitations were extended by John S. Battle, governor of the host state, to the 47 other governors, asking that a senior physician from each state come to Virginia and bear witness to medical advances that have taken place within his lifetime.

The 75 year old guests, who carried medicines to their first patients in saddlebags or by horse and buggy, will travel to Virginia by Pullman or plane. They will be greeted by Dr. Louis H. Bauer, president of the American Medical Association, and by medical leaders of Latin America. Included in the program will be visits to the state's historic spots and opportunities to recall the discovery of x-ray, vitamins, blood transfusions, powerful new drugs, and other advances that have lengthened human life.

Travel and other expenses of delegates from the medical societies of the American republics and of the 75 year old guests—for a program of the doctors' own choosing—are being met through a grant by E. Claiborne Robins, whose grandfather founded A. H. Robins Company, Inc., ethical pharmaceutical house of Richmond, 75 years ago.

"During the lifetime of physicians now 75, the average length of human life in our country has nearly doubled," Governor Battle observed, "and Mr. Robins believes that recognition and honor are due those who have witnessed these advances and had a part in them."

Dr. Bauer, announcing the World Medical Association meeting recently, said that three quarters of a century ago, life expectancy at birth was 34 years among industrial policyholders of a large life insurance company and a few years more for the population at large. Today's life expectancy, he said, is 68—alike for the industrial and general population. It is expected to pass 70 well before 1960 if present medical gains continue. The conference will survey what lies on the horizon, not only for the United States but for all the Americas.

Committee on Medical Motion Pictures

The Committee on Medical Motion Pictures has announced the publication of a new revised film list which includes 78 medical films not readily available from other sources.

This list was made available for distribution on December 1. A copy may be obtained by writing the Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

Oak Ridge Institute of Nuclear Studies

The Medical Division of the Oak Ridge Institute of Nuclear Studies is inviting applications for one-year residencies in experimental medicine. Two appointments will be made annually, beginning in 1953.

The division operates under contract with the U.S. Atomic Energy Commission a 30-bed research hospital and extensive laboratories for the correlation of basic scientific studies with clinical investigation. An active research program of experimental cancer therapy with radioisotopes is in progress under the direction of a full-time staff and consultants from participating medical schools. Research in progress offers opportunities for metabolic studies with isotopes and for investigations in the field of hematology.

The residencies are approved for one year of basic credit in internal medicine by the American Medical Association and the American Board of Internal Medicine. Stipends are $2,000, plus $4 a day subsistence in lieu of mantenance.

Additional information may be obtained from Marshall Brucer, M.D., chairman, the Medical Division, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tennessee.

Air Research and Development Command

An experimental "spray on" plastic surgical dressing, developed by the United States Air Force for possible emergency use in case of atomic attack, or other large-scale disasters, may prove effective for general use in treatment of many types of surgical wounds.

The transparent plastic dressing, or "aeroplast," is applied directly to burned or injured areas of the body from an aerosol-type, pressurized container, and provides instant protection. In tests conducted so far, gauze bandage dressings have been unnecessary when this plastic was used.

U. S. Air Force medical officers recently completed an eight-week program testing the dressing on many types of injuries and surgical cases. It is planned to conduct further tests in hospitals

throughout the United States to determine if the new dressing is suitable for standard usage. As a result of earlier tests, AF doctors believe "aeroplast" may be effective clinically as a general surgical dressing.

(BULLETIN BOARD CONTINUED ON PAGE 48)

Acute Shock in Heart Attack Seen Helped By Levophed

Intravenous injection of Levophed, a vasopressor drug, has resulted in "significant" elevation of the blood pressure in four of seven patients with acute myocardial infarction, complicated by severe or profound shock.

This conclusion was reported by Drs. Albert J. Miller and Lyle A. Baker in the A.M.A. **Archives of Internal Medicine** (vol. 89). The results are considered especially noteworthy for it has been demonstrated experimentally that Levophed, while raising the blood pressure, at the same time increases coronary blood flow. Levophed was developed at the Sterling-Winthrop Research Institute and is available through Winthrop-Stearns, Inc.

Geigy Pharmaceuticals Introduces Butazolidin, Potent New Anti-Arthritic Drug

Butazolidin, a totally new, synthetic, orally effective agent for the treatment of arthritis and allied disorders, is now being released for general use on physicians' prescription by Geigy Pharmaceuticals.

According to a recent report delivered at the California Medical Association by Dr. Ralph Schaffarzick of Stanford University, Butazolidin is highly effective in many forms of rheumatic disorders. In gout the effects were superior to those of colchicine, the acute symptoms subsiding completely in the vast majority of cases in two to seven days. In rheumatoid arthritis, osteoarthritis, spondylitis, and other arthritic disorders extremely favorable results, amounting to complete remission in some instances were reported. The toxicity was reported as of a low order in comparison with other antirheumatic drugs of similar potency.

Chemically, Butazolidin is a pyrazolone derivative and is entirely unrelated to the steroid hormones. It was first synthesized in the laboratories of the Geigy Company in 1948. After thorough pharmacologic testing in the Geigy laboratories, it was issued to a selected group of rheumatologists for careful clinical evaluation.

Butazolidin will be issued as oral tablets of 100 and 200 mg. The average dosage for an adult is 600-800 mg. daily. Generally, the drug has to be continued indefinitely in order to maintain clinical improvement; on occasion the dosage can be reduced to 200-400 mg. daily for maintenance purposes.

Telepaque Found "Superior" In Viewing Gallbladder

Telepaque, the new radiopaque medium for gallbladder visualization introduced by Winthrop-Stearns Inc., is called "superior to any that have as yet been used" by Dr. William H. Shehadi, department of radiology, New York Polyclinic Medical School and Hospital.

Supplementing its advantages in cholecystography, Dr. Shehadi points out that Telepaque also provided frequent views of the bile ducts. By affording this opportunity to examine ductal anatomy and physiology, he observes that a new field has been opened in the study of the biliary system. He reports in the American Journal of Roentgenology (68:360, 1952).

BOOK REVIEWS

Remember These Things. By Paul Harvey, radio and television commentator. Arranged by John M. Pratt. 177 pages. Price, $2.00 (reduction in lots of three or more copies). Chicago: The Heritage Foundation, Inc., 1952.

Last year a remarkable little book, **The Key to Peace,** based on a series of addresses by Clarence Manion, dean of the Law School of Notre Dame, was published by the Heritage Foundation and attracted wide attention. These addresses were edited by John M. Pratt, chairman of the foundation. They constituted a condensed history and analysis of the American way of life.

A sequel to this book—"Remember These Things"—has just been published by the same foundation. It too was edited by Mr. Pratt from a series of radio and television broadcasts by Paul Harvey, who was presented by the American Legion at its thirty-fourth national convention with its first national award for militant Americanism and outstanding broadcasts.

This little book, in simple, down-to-earth phrases, tells the things that have made America great—also the dangers that threaten our greatness as a nation. The short, pungent paragraphs, separated by "breaks," remind one of the style used by Peter Marshall in his sermons; and in many of his broadcasts Paul Harvey was really preaching to his audience.

The book can be highly recommended as a sequel to **The Key to Peace,** to all who want to preserve the principles for which our founding fathers pledged their fortunes, their lives, and their most sacred honor.

Synopsis of Pathology. By W. A. D. Anderson, M.D., F.A.C.P., Professor of Pathology, Marquette University School of Medicine; Pathologist, St. Joseph's Hospital, Milwaukee, Wisconsin. Ed. 3. 766 pages, with 334 illustrations and 13 color plates. St. Louis, Missouri: The C. V. Mosby Company, 1952.

This third edition in 10 years bespeaks the popularity of this small volume among those searching for a concise but not too abbreviated work on pathology. It has been brought up to date as far as is possible, and there has been a general improvement in the quality of reproduction of the black and white illustrations, the subject matter of which is good. The color plates show some improvement, with a sharpening of reproduction in one (No. 5) and the elimination of two of the poorer ones of the previous edition. It would have improved the edition if the author had replaced all plates with new ones, original with himself, instead of using the old and borrowed plates from other works of this same publisher.

There are other and more economical points for correction in future editions: (1) the use of the word "pathology" where "lesion" or "disease" is intended (fig. 26); (2) The use of the term "pus cells" (page 164); (3) The excessively brief consideration (one page) of the important process of shock; the brief space (one and a quarter pages) devoted to all the diseases of the nasal cavity and sinuses, the pharynx, and larynx.

The presentation of the fundamental processes of inflammation and repair and of the retrogressive processes is more in synopsis than other portions of this volume. One third of the space is given to general pathology and the remaining two thirds to special pathology or system disease.

When one analyzes the use to which a volume of this type should be put, it is difficult to find the right place for it. It is not the brief and synoptic work indicated by its title, nor is it yet full or inclusive enough for student use or for the trained pathologist. It would seem, then, that its use would be limited to the practitioner who wishes to review the field of pathology in general; for this use it is good. Nevertheless, this volume has made its way into the hands of many second-year students and is consulted frequently by trained pathologists. It is really a more complete text than some now in use. Its good points are many, and its faults no more numerous than those found in other volumes, particularly in view of the difficult job of condensation.

The Literature on Streptomycin 1944-1952. By Selman A. Waksman. 553 pages. Price, $5.00. New Brunswick, New Jersey: Rutger's University Press, 1952.

The second edition of this book brings up to date the list of all publications dealing with experimental and clinical observations on streptomycin. Five thousand five hundred and fifty (5,550) articles are tabulated and cross-indexed by author and subject. No attempt is made to abstract or summarize these articles. The book should be a valuable reference for investigators in the field of chemotherapeutics.

Don't Be Afraid of Your Child: A Guide for Perplexed Parents. By Hilde Bruch, M.D. Price, $3.75. New York: Farrar, Straus, and Young, Inc., 1952.

This new work by Dr. Bruch is based on her personal observations of over 20 years in teaching and pediatric and psychiatric practice.

Dr. Bruch contends that the modern parent is caught in the dilemma of conflicting theories, often too afraid to follow his own feelings and judgment for fear of creating problems in his child. She authoritatively discusses these pat tenets which have disregarded the parents' emotional needs and the individuality of each child.

Don't Be Afraid of Your Child is a challenging volume as it examines the opposing views of various psychologic schools. Every student will find it a balanced, objective study and an invaluable asset.

Dr. Bruch discusses the manifold questions of parenthood from the prenatal emotional problems, through "natural childbirth," "rooming in," stages of infant care and child-rearing, to the adolescent tangles.

Written in nontechnical language and supplemented with personal illustrations, it is not a heavy-handed text book, but a forthright statement of the experience and judgment of a distinguished pediatrician and psychiatrist.

One of the main things that psychiatry has done is to show the physician that spending hours in listening to all ramifications of the patient's problems and life experience is a medical service just as valid as providing medicine or surgical treatment. This may be something of an illusion on the part of the psychiatrist, but if so, it is a useful one in that it gives the physician more security and confidence in coming to a broader understanding of the patient's difficulties.—Hyde, R. W.: The Contribution of Psychiatry to Medical Practice, New England J. Med. 246:608 (April 17) 1952.

In Memoriam

GEORGE PENN DILLARD, M.D.
1892—1952

Dr. George Penn Dillard, who has been in declining health for the past three years, succumbed to a heart attack at his home in Draper, North Carolina, on November 20, 1952. He was 60 years of age. The funeral was conducted from the First Methodist Church by Dr. E. P. Billups and interment was made in Oakwood Cemetery, Martinsville, Virginia.

Dr. Dillard, a native of Henry County, Virginia, was a grandson of the late Dr. George Penn Dillard and a great grandson of General John Dillard of fame in the War of 1812. He attended Martinsville High School, entered Maryland Medical College, Baltimore, Maryland, in 1912, and was graduated from Bennett Medical College of Loyola University in Chicago in 1916. He located at Draper, North Carolina, soon after and has been active in the religious, civic, political, and economic affairs of the community, state, and nation since that time.

He has served on the Leaksville Township School Board for the past 30 years and has just witnessed the opening of the new Tri-City High School which serves the students of Leaksville-Spray and Draper. He has also served as bank president, president of the Board of Directors of the Y.M.C.A. for 25 years, and as chairman of the Rockingham County Democratic Executive Committee for 20 years. In both World War I and II he was medical examiner for the county draft boards. At the time of his passing he was president of the Men's Bible Class of the Methodist Church, and had been a member of the Board of Stewards almost constantly since affiliation with the church.

Dr. Dillard was a charter member of the American Academy of General Practitioners and attended the first Scientific Assembly in Cincinnati in 1949. He was a past president of the Rockingham County Medical Society, an active member of the North Carolina Medical Society, the Association of Surgeons of the Southern Railway, and a member of the American Medical Association.

Survivors include his wife, Mildred Booker Dillard, and the following children: Dr. George Penn Dillard, Jr., chief of staff of the Berachah Tuberculosis Sanitorium, Bethlehem, Hashemite Kingdom of the Jordan, Dr. Sam Booker Dillard of Draper, Mrs. Carlyle Barksdale of Leaksville, and Mrs. Charles A. Comer, Jr., of Baltimore, Maryland.

Because the control of tuberculosis is a universal problem, found in all areas everywhere, the program must be shared by all agencies working together, official and voluntary. This means that the disease must be found, isolated, and treated and that efforts and methods for control must transcend the boundaries of a single state, local area, state or nation. The cost of fighting tuberculosis is very great and the problems it produces are many and complex . . Efforts to control it and eventually eradicate it require most intensive work on local, state, national and even international levels of action. — Mabel Baird, Conn. State Med. J., May, 1952.

BULLETIN BOARD

(CONTINUED FROM PAGE 46)

DEPARTMENT OF THE ARMY

Physically qualified enlisted volunteers are needed to participate in a three-month ration test to be conducted by the Army Medical Nutrition Laboratory at Francis E. Warren Air Force Base, Wyoming, beginning January 1, 1953.

Test subjects will consume specially prepared rations supplemented with Vitamin C or Vitamin B Complex as they perform normal military training activities and engage in sports, overland hikes and physical fitness tests under field conditions. Volunteers will have two periods of rest, recreation and rehabilitation in heated barracks interspersed with time spent in the field. In addition, those who complete the test will be granted four weeks special leave, not to be counted against normal accrued leave.

Enlisted men who wish to volunteer for the trial must have a straight serial 1 physical profile. They should be between 5 feet 8 inches and 5 feet 11 inches in height and weigh between 145 and 180 pounds. No Negro or Puerto Rican personnel can be accepted, because these racial groups are believed to react differently to cold.

The Medical Nutrition Laboratory is seeking 120 test subjects, to be organized into four platoons. Platoon leaders and platoon sergeants will also participate in the experiment.

Enlisted men who wish to volunteer for the test should make application through channels to the commanding officer of the 250th General Hospital at William Beaumont Army Hospital, El Paso, Texas, a General Reserve unit from which test subjects are to be drawn.

Lieutenant Colonel Robert Ryer III, MSC, commanding officer of the Medical Nutrition Laboratory, expects the Wyoming test to yield important data on how Vitamin C and other ration supplements can be used to enable troops to endure stress and carry on a high level of activity in cold climates. Precise knowledge is needed to determine the exact quantities of vitamins which should be added to normal Army rations in a cold environment.

* * *

The Fifth Medical Instructors Conference, for briefing Army medical instructors in the latest developments in field medicine as well as recent trends in training philosophy and method, was held December 1-3 at the Medical Field Service School, Brooke Army Medical Center, Fort Sam Houston, Texas.

Major General Edward A. Noyes, MC, Commanding General, Brooke Army Medical Center, opened the sessions of the conference and presented greetings on behalf of the center's staff. Major General Joseph I. Martin, MC, Commandant of the Medical Field Service School, presided.

* * *

Group relationships which reduce psychologic stress, combat fatigue, and neuropsychiatric breakdowns of American soldiers are being studied in Korea by the Army Medical Service, the Army announced recently.

Under the title of "A Study of Social Strengths in Combat Units," the relationships of the combat soldier to his social situation, social structure, and culture are being investigated. The project, already under way, is under the joint sponsorship of the Neuropsychiatry Division of the Army Medical Service Graduate School, and Michigan State College.

FEDERAL SECURITY AGENCY

Public Health Service

Roving disease detectives of the Public Health Service, Federal Security Agency, assisted state and local health departments in investigating and controlling more than 200 epidemics and three flood disasters during 1952, Surgeon General Leonard A. Scheele announced recently.

The total was 10 times greater than the average number of epidemic and disaster aid calls answered in recent previous years, the Surgeon General said. He explained that the increase was due to the fact that 1952 was the first full year of operation of the Epidemic Intelligence Service, a mobile corps of 32 epidemiologists, or epidemic trouble-shooters, attached to the Service's Communicable Disease Center at Atlanta, Georgia.

VETERANS ADMINISTRATION

Appointment of Dr. Paul Mills Ireland of Denver, Colorado, as chief of the surgical division, Department of Medicine and Surgery, in the Veterans Administration, is announced by Vice Admiral J. T. Boone (M.C.) U. S. Navy, Retd., Chief Medical Director.

Dr. J. A. Kennedy, who has been serving as acting chief of the surgical division, will continue in his permanent assignment as assistant chief.

* * *

Dr. Arden Freer, deputy chief medical director of the Veterans Administration, recently announced plans to relinquish the second largest medical job in the United States and retire to private life on December 20, 1952.

Dr. Freer plans to devote his time to developing properties which he has in North Carolina, and expects eventually to make his permanent home in Fayetteville, North Carolina.

At the request of the Administrator of Veterans Affairs and upon recommendation of Admiral Joel T. Boone, he has accepted an appointment to serve as special adviser to the Chief Medical Director on a consultatory basis, so that his knowledge and skill will not be entirely lost by the VA.

In expressing regret at the loss of the deputy who has so ably assisted him in establishing the veterans' medical program on a sound foundation, Admiral Boone pointed out that largely through the foresight and organizing ability of Dr. Freer he has "highly skilled hands now available and oriented" in the person of Dr. Roy Wolford to replace Dr. Freer.

* * *

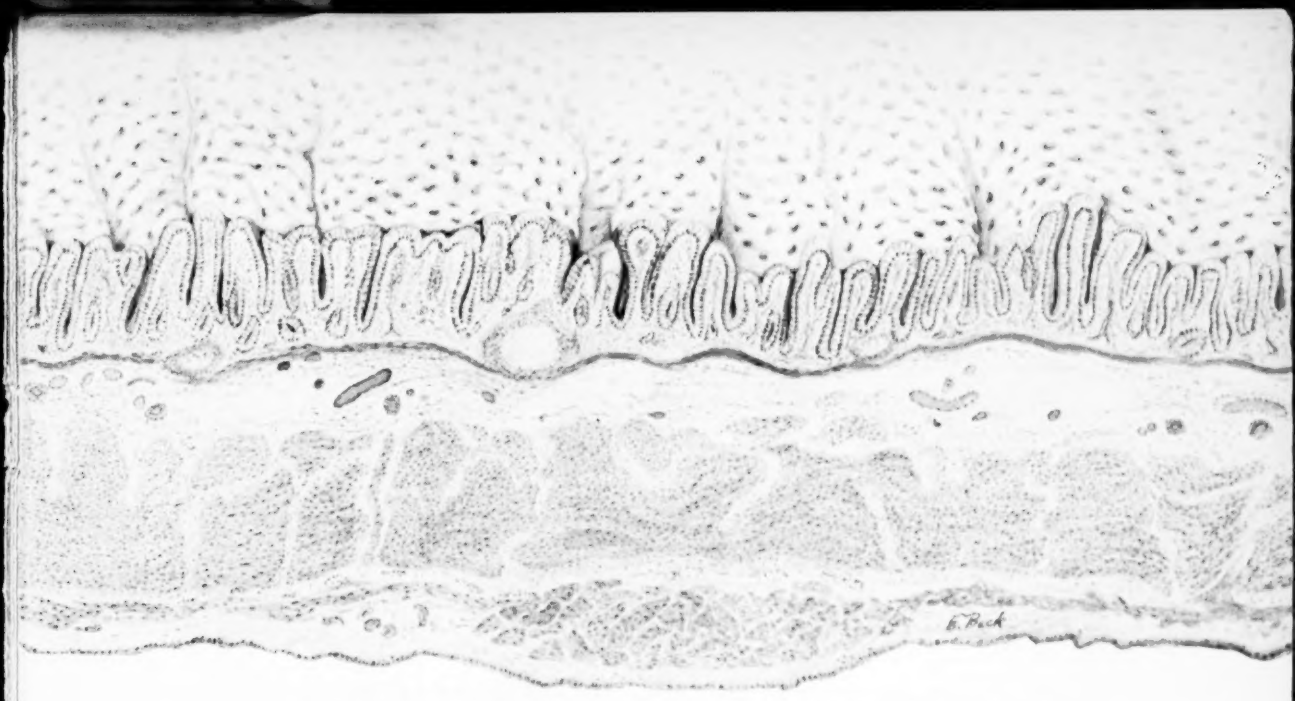
Appointment of Dr. Robert A. Ross, Durham, North Carolina, to Veterans Administration's Special Medical Advisory Group has been announced by Vice Admiral Joel T. Boone, U.S. Navy (M.C.), Retd, Chief Medical Director of VA.

Dr. Ross, professor and head of the Department of Obstetrics and Gynecology at the University of North Carolina, replaces Dr. Robert A. Kimbrough, Jr., Philadelphia, Pennsylvania, who resigned because of the pressure of other duties.

Dr. Ross was graduated in 1922 from the University of Pennsylvania School of Medicine. Prior to his recent appointment as a department head at the University of North Carolina, he was for 20 years on the staffs of Duke University Hospital and the University medical school, as a specialist in obstetrics and gynecology.

* * *

Dr. Arden Freer, retiring Deputy Chief Medical Director of the Veterans Administration, received VA's highest award—the Exceptional Service Medal —from General Carl R. Gray, Jr., Administrator, on December 8, 1952.



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X-Ray in Hospital	10.00	20.00	30.00	40.00
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COSTS (Quarterly)				
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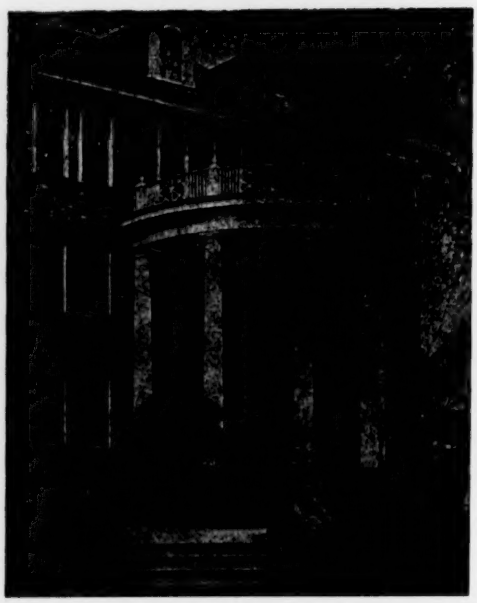

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1. Reich, W. J., et al. (1952), A Recent Advance in Estrogen Therapy. II. Amer. J. Obst. & Gynec., 64:174, July. 2. Reich, W. J., et al. (1951), A Recent Advance in Estrogen Therapy. I. Amer. J. Obst. & Gynec., 62:427, August.

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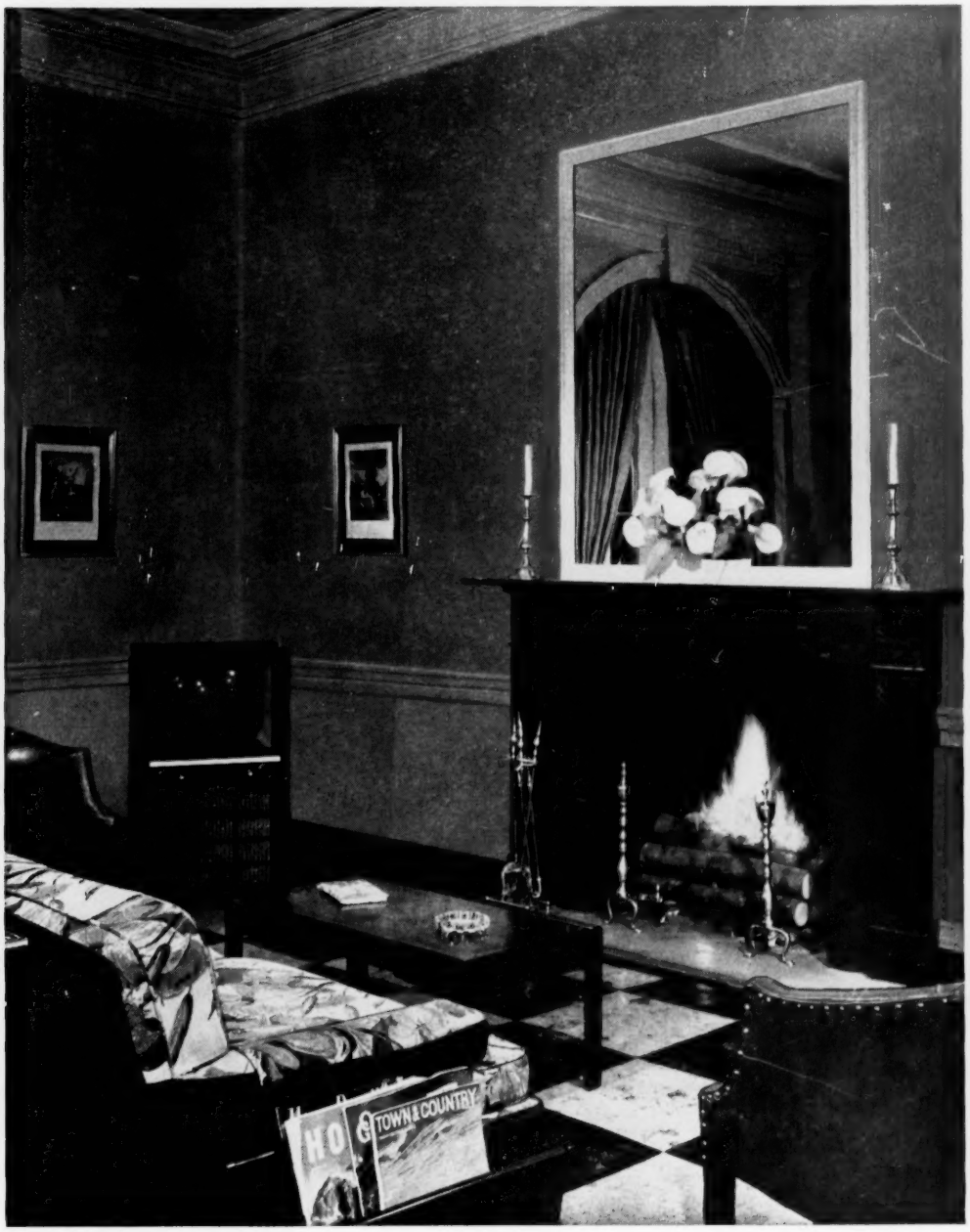

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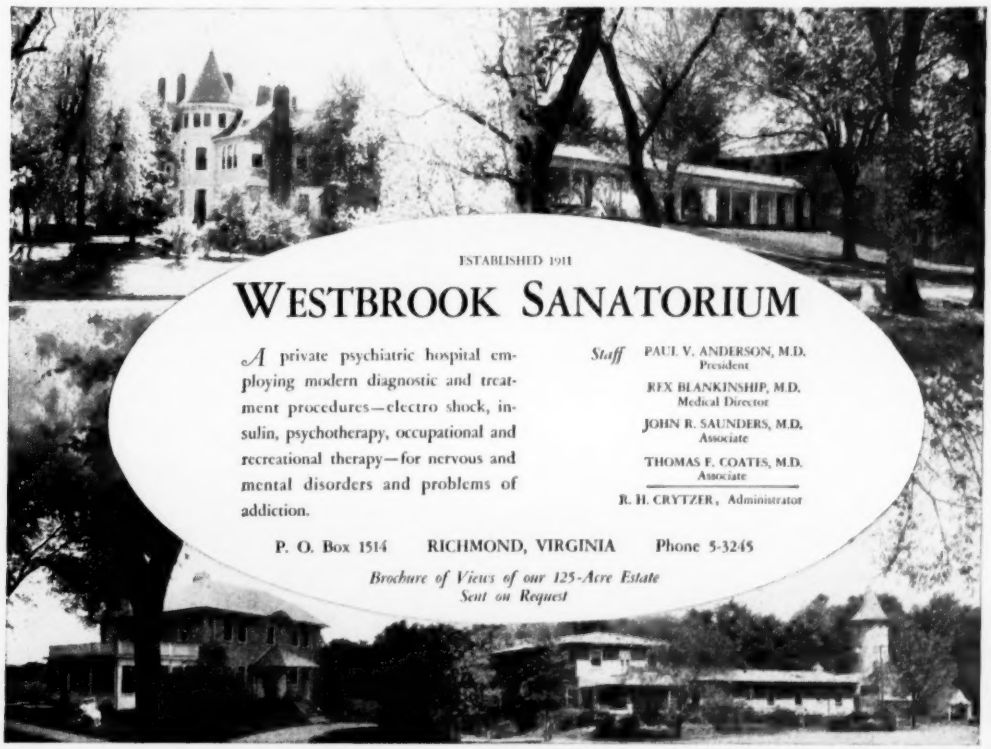

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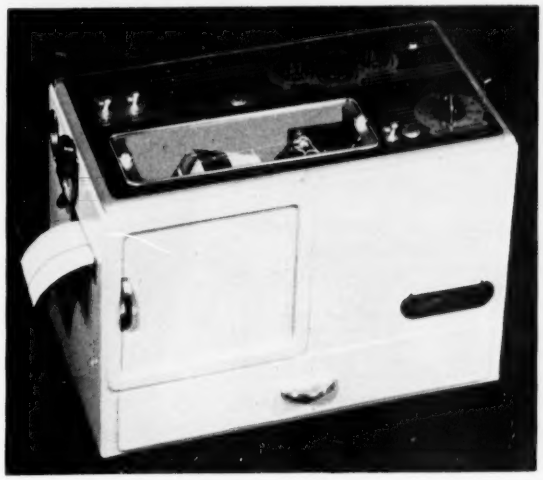

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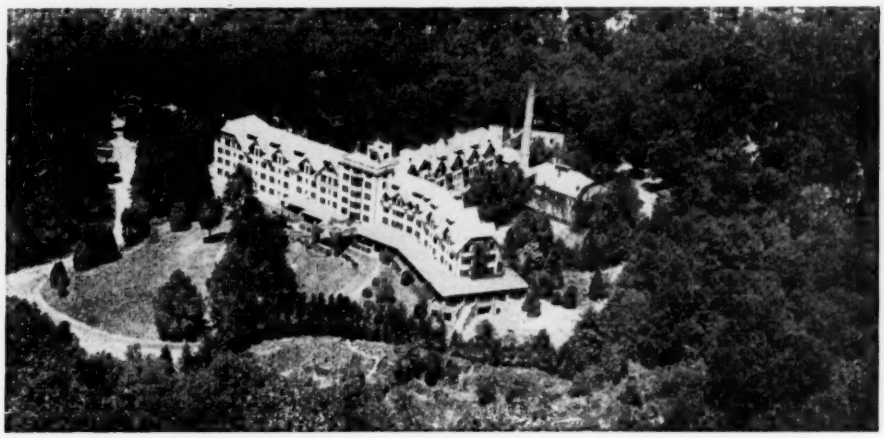

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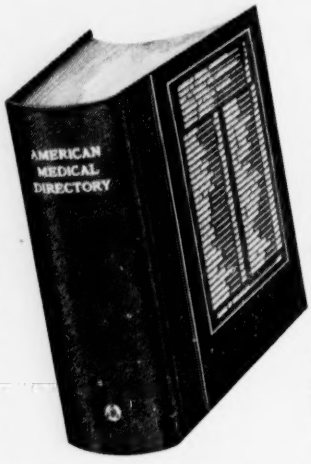

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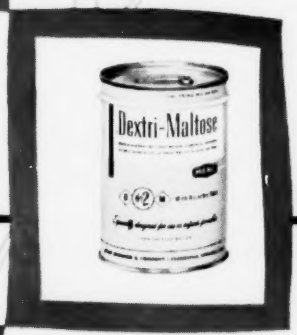

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